Saturday 22 July 2017

AMGCU

EXCLUSIVE!

Tamron 18-400mm

First UK test of the world's longest range zoom lens

Photographer

Get out
of my
SINOT!

Passionate about photography since 1884

- Remove annoying distractions
- Quick and easy editing secrets
- When is it OK in competitions?



Tough love

We put four **waterproof** compacts to the test

Natural gift

The amazing wildlife photos of **Audun Rikardsen**



How to shoot golf

With **The Open** fast approaching, follow our tips for great golfing photos

'One of the best variable ND filters we've tested' Full story page 47







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'Check the frame for distractions before you take the shot' is one of the golden rules of photography but there are times you simply can't

avoid people and things creeping in. It's a particular problem when you are trying to take discrete photographs in unfamiliar locations - vell at a public security officer in China to get out of the shot, for example, and it probably

A week in photography

won't end well. So this issue takes you through common problems and the best tools for fixing them. We're not suggesting you should rely on post production to fix lazy composition, but these are skills well worth knowing. Of course, one way of avoiding distractions is to zoom in with a long lens - how apt, then, that we've also got the UK's first review of Tamron's new 18-400mm lens on page 37.

Nigel Atherton, Editor



amateurphotographer.



photographer.magazine









Rancho Bizzaro by Marco Mosti

Nikon D800E, 12mm, 1sec at f/10, ISO 100

This image was uploaded to the AP Flickr page by music photographer Marco Mosti. In it we see Italian band Rancho Bizzaro performing an intimate basement gig in Rome. It's not always easy conveying the energy of a live performance in photography but here we see that Marco has used the basic technical approach of simply setting his shutter to one second. This nicely

conveys the sense of a band in full swing as they thrash their way through their songs. It's worth visiting Marco's Flickr page to get a good feel for his work. He's a photographer who understands entirely how to shoot gig photography and the homogenous black & white aesthetic is a captivating style. See more at www.flickr.com/photos/leeperryphd.



Each week we choose our favourite general picture on Facebook, Instagram, Flickr, Twitter or the reader gallery using #appicoftheweek. PermaJet proudly supports the online picture of the week winner, who will receive a top-quality print of their image on the finest PermaJet paper*. It is important to bring images to life outside the digital sphere, so we encourage everyone to get printing today! Visit www.permajet.com to learn more.

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CD/DVD Send us a disc of high-resolution JPEG, TIFF or PSD images (at least 2480 pixels along its longest length), with a contact sheet, to the address on page 51. Via our online communities Post your pictures into our Flickr group, Facebook page, Twitter feed, or the gallery on our website. See details above. Transparencies/prints Well-packaged prints or slides (without glass mounts) should be sent by Special Delivery, with a return SAE, to the address on page 51.



NEWS ROUND-UP

The week in brief, edited by Liam Clifford and Hollie Latham Hucker

New gear from Novo

Kit manufacturer Novo has announced a slew of new pieces of peripheral kit for photographers, including fresh filters and a monopod stand. Filters come in a variety of sizes



Travel POTY looks for entries



The annual Travel Photographer of the Year is back again, seeking entries across a variety of categories. One open to amateurs and semiprofessionals this year is Destinations – a special category in which

photographers submit six different shots that capture a specific location, however they see fit. Visit www.tpoty.com to learn more.

Official Irix filters available

Swiss lens manufacturer Irix has officially started shipping 95mm screw-in 'Edge' filters, designed to be paired with any of its products. The filter range features neutral density, polarising and



ultra-violet versions, all armed with waterproof and anti-reflective coatings for those looking to get more out of their Irix lenses.

Available now from €76 from Irix dealers.



Bristol in 24 hours

In a repeat of its event in Manchester last year, cartridgesave.co.uk is organising a 24-hour photography event on 19 August in Bristol. The idea is to photograph the city around the

clock to build a visual library of what the city looks like in 2017. For more details see www.cartridgesave.co.uk/printwhatmatters/a-day-in-the-life-bristol.

L brackets from 3 Legged Thing

British tripod brand 3 Legged Thing has launched its latest Universal L Brackets. The QR11-LC and QR11-LG offer universal compatibility, accessory attachment



and flat storage. The brackets work at an optimal length for most cameras. Available from £49.95 at photo retailers.





GET UP & GO



Wet Plate Collodion course

This course provides an introduction into the wonderful world of wet-plate collodion photography. The course will provide you with all the practical information and contacts needed to begin the rewarding journey into creating wet collodion images.

29-30 July, www.streetlevelphotoworks.org/course/wet-plate-collodion



Edward Jonkler

Jonkler's work examines the role of men in refugee camps, and the shifting power dynamics that can often lead to mental illness and acts of radicalisation, with once patriarchal figures becoming 'lost'. Jonkler's powerful portraits show a series of men torn from their established notions of masculinity.

Until 9 August, www.saatchigallerv.com





The Museum of London explores London by night

The city at night is a landscape full of magic. And if you're a photographer, you've more than likely felt drawn to the empty walkways lit by streetlights. With that in mind, the Museum of London has announced a new exhibition for 2018, which will explore London after dark through both contemporary and historical photography. The images will range from the 19th century to the present day, such as this one of a passenger on a night bus by Nick Turpin, and show how the city at night has long been a draw for individuals. The exhibition will be split into three parts - a look at the darker and mysterious side of the city; the ways in which photographers have captured London at night; and finally an exploration of after-hours workers.

London Nights will run from 11 May to 11 November 2018. www.museumoflondon.org.uk.

Words & numbers

The most interesting things to see, to do and to shoot this week. By Oliver Atwell



Local wildlife

Wolverhampton Art Gallery is on the hunt for Wolverhampton's very own wildlife filmmakers and photographers. The competition is open to anyone living, working or studying at a WV postcode aged from five years upwards. Winners will be announced on 22 July.

Until 8 October www.wolverhamptonart.org.uk



Colin O'Brien

Colin O'Brien was a photographer who spent his days treading the streets of London looking to draw out the character of its locations and people. You can see his black & white social-documentary style on show at Hanbury Hall in East London.

Until 12 August www.colinobrien.co.uk

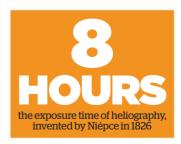


Open 3: Affecting Change

Liverpool's young photographers are the driving force behind Open Eye Gallery's latest exhibition. Open 3: Affecting Change investigates societal change and offers a glimpse into the activities of people working hard to transform the lives of others.

Until 17 September www.openeyeorg.uk

You don't take a photograph, you quietly ask to borrow it Anon







Premium mirrorless TL2 released by Leica

LEICA has launched the TL2, the recorded in JPEG or DNG raw formats.

By adding its latest Maestro II of mirrorless cameras. The TL2 is an update to the TL that was introduced eight months ago. It uses a similar unibody design that's crafted from a single block of aluminium, but the TL's 16MP sensor has been replaced with a 24MP unit. Leica claims this promises exceptional sharpness, impressive dynamic range and excellent colour rendition.

The TL2 has a sensitivity range of ISO 100-50,000 (ISO 100-12,500 in the TL), and image files can be

processor, Leica says it has increased the operational speed of the new model, with autofocus that's three times faster than the TL and a considerably faster start-up time. These performance improvements extend to the shutter and continuous shooting, with the 1/4000sec top mechanical shutter speed expanded by a new silent electronic option that goes up to 1/40,000sec.

For video shooters, 4K recording is included at 3840x2150 resolution

and 30 frames per second. Full HD video is available at 60fps, and users can try their hand at slow-motion recording using a 120fps mode.

One feature that's missing compared to the TL is a pop-up flash, but there's still a hotshoe for mounting an external flash unit. This can also accept Leica's £390 Visoflex add-on electronic viewfinder.

The Leica TL is available to order immediately, in a choice of silver or black finishes. It costs £1,700 body only, with TL-mount lenses available from £1,300.



Volvo camera used for exhibition

VOLVO has teamed up with award-winning photographer and artist Barbara Davidson to create an unusual photography collection - captured using the on-board safety camera of a Volvo car.

Photographed in Copenhagen, Denmark, Davidson has created a collection of about 30 photographs using the Volvo XC60. Davidson, who is a multiple Pulitzer Prize-winner, holder of an Emmy Award and a former staff photographer for the Los Angeles Times, chose to work with Volvo based on her own history with the brand - reportedly, as a teenager, the safety features of her Volvo vehicle saved her life in a car accident

Davidson's photographs were first exhibited at Canvas Studios gallery in London's Shoreditch at the beginning of July and the exhibition will then travel to other countries in 2017.





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iPhone Photography Award 2017 winners

NEW YORK-based photographer
Sebastiano Tomada has beaten thousands of submissions to claim the Grand Prize of the tenth iPhone Photography Awards competition with his photo titled 'Children of Qayyarah' (see right). Tomada will receive a new iPad Pro as his prize.

Captured in Iraq, the shot shows children roaming the streets of Qayyarah near billowing columns of smoke created by Islamic State fighters burning oil wells. It was taken on an iPhone 6s.

Tomada has previously won a World Press Photographer of the Year award and the 2013 Humanitarian International Red Cross Visa d'or award.

First, second and third-placed photographer of the year awards went to Brendan Ó Sé (Ireland), Yeow-Kwang Yeo (Singapore) and Kuanglong Zhang (China) respectively.

The iPhone Photography Award is, as the name implies, a competition for shots taken exclusively on iPhones. It was first set up in 2007 by Kenan Aktulun, who says: 'We are amazed



to see how the awards have grown from a small circle of people and friends of friends into a truly global audience with thousands of participants. In this time of political upheaval we feel very thankful to host such a truly diverse group of people and their view of the world.'

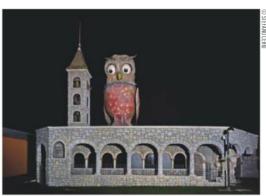
For the tenth anniversary of the competition, a

special category was added. The new America I Know category was won by Juan Carlos Castañeda of New York. He wins an all-expenses paid trip to the 2017 Aspen Ideas Festival in Colorado.

To see the all the winning images across 19 categories and learn more about the competition, visit www.ippawards.com.

New Books

The latest and best books from the world of photography. By Oliver Atwell



Night Games

by Stefano Cerio, Hatje Cantz, £46.37, hardback, 128 pages, ISBN 978-3-77574-301-3



THE ACTOR Lon Chaney once famously said, and I'm paraphrasing slightly, that there's nothing funny about a clown in the moonlight. The same could be said of fairs and

amusement parks. Once the lights go out, the strange and exaggerated architecture begins to take on the aura of something more sinister. Stefano Cerio has visited a variety of locations, including children's parks. and shot them in the pitch-black night using artificial light. The flash-drenched images reveal the locations as surreal landscapes. The white light and shadows warp and contort the structures, and at times make them appear otherworldly. While the use of flash is understandable, it would have been interesting to see what Cerio could have done with a couple of studio lights hooked up to a generator. Night Games, while a continuation of previous projects using the same technique, still feels like the beginnings of something. It'll be interesting to see if Cerio advances his project and techniques in the future. ***

Millions of online images 'held ransom'

DENVER-based image-hosting service Photobucket has caused considerable social media outrage after its shift from a free service to a paid-for site.

The service, which says it has served more than 100 million users and hosts 15 billion pictures, is now asking its users to pay \$399 (roughly £309) to keep the images available online, causing thousands of images displayed on major sites such as eBay and Amazon, and countless smaller blogs, to display broken links.

The company has been accused of effectively holding the images to ransom

by many users, who are particularly angered by the fact that Photobucket offered no warning of the changes.

Photobucket has not yet responded to calls for comment.



One user's view of the Photobucket site

For the latest news visit www.amateurphotographer.co.uk

Drone Photography & Video Masterclass

by Fergus Kennedy, GMC Publications, £16.99, paperback, 176 pages, ISBN 978-1-78145-300-1



IT'S ESTIMATED that by 2021 67 million drones will be shipped around the world. The notion of drones-as-fad has now passed as more and more people are using them to create unique images of cities

and landscapes. While many drones are designed to be as user-friendly as possible, that doesn't mean they're a walk in the park. In this book, Fergus Kennedy has put together the definitive guide to drone photography and videography. It seems to contain everything a new user needs to get them up in the air. Every aspect is covered, from safety and legal requirements to planning your mission. It's generously illustrated at every opportunity and, even if you're not sold on the concept, a pretty interesting to read.

Viewpoint Tracy Calder

Trips to the car boot sale are a bittersweet affair for Tracy Calder, as she laments the loss of the family album

hen summer arrives, my Sunday morning routine is seriously disrupted. No more lie-ins or leisurely conversations over the cornflakes; I am up early and out of the door in search of a car. boot sale. Over the years, I've picked up some fantastic bargains: tripods, bags, filters, props, and countless objects for still-life compositions. However, among my greatest finds are albums of old family photographs. It might seem odd to rifle through pictures of a stranger's wedding or birthday celebration, but I find it fascinating and, at times, moving. I look at some of the subjects and wonder if they are still alive. I look at the clothes and think of my own grandparents wearing their Sunday best on the beach. Most of these pictures were created to mark high points in life: the birth of a baby, a trip to the zoo, a new car. There are no funerals, no broken limbs, and no divorces. Frozen in these small rectangles, these people are eternally happy.

What is sad, however, is the fact that these albums end up at the car boot sale in the first place. Many will come from house clearances carried out by people who have no emotional connection to the pictures. In such instances, I wonder why nobody from the family came forward to claim them. Personally, I find it almost impossible

to throw away a picture of a family member, however bad it is. To do so would feel strangely disrespectful or disloyal. Perhaps I'm just sentimental. In my view, every family album should have a custodian to care for it and, crucially, to make sure that future generations know a few details about the pictures it contains. Who, for example, is the woman in the straw hat, and why is she holding a tortoise? Why is the baby dressed in a pixie outfit?

Preserving memories

I am the custodian of our family album. In a box under the bed, I have a print of my grandmother's wedding. The bouquet of roses she is holding, and the bridesmaid's dresses, have been hand-painted. The story goes that she refused to marry my grandfather until he could afford a set of hand-painted pictures – these are the memories that should be preserved. Just a few notes in a book kept alongside the pictures will be enough to keep future generations interested, and ensure that these heirlooms do not end up among the cuddly toys, lampshades and fitness DVDs at the car boot sale. Speak to your family today, select a custodian of the album, and spend an evening sharing memories to add to your little book. Your children, and your grandchildren, will thank you for it.



If you appoint a custodian of your family album, future generations will thank you

Tracy Calder is Technique Editor at Amateur Photographer. She has more than 15 years of experience in the photo magazine industry including two as editor of *Outdoor Photography* magazine.

Do you have something you'd like to get off your chest? Send us your thoughts in around 500 words to the address on page 51 and win a year's digital subscription to AP, worth £79.99

In next week's issue

On sale Tuesday 25 July



Perfect match

Find the right mirrorless camera for you in our guide to the best models by category



Learning the ropes

Top yacht photographer Rick Tomlinson with advice on shooting Cowes Week

Nikon D7500 on test

We find out how Nikon's new DX-format DSLR for enthusiasts performs

Gimme shelter

Giles Duley talks about photographing the global refugee crisis despite suffering life-changing injuries in Afghanistan



Join Club

The Camera Club

Oxford Photographic Society

A warm welcome awaits at this wellestablished club with a long history

When was the club founded?

Earliest records show that the society existed in 1889, but we are not certain if this was the foundation year. We have a photograph of members on an outing to Clifton Hampden in 1890.

What does your club offer new members?

A warm welcome! To continue thriving, we are keen to ensure visitors are welcomed and find a community of photographers interested in what they do, regardless of their ability or experience. Kate Murrell is our designated committee member who welcomes each individual and explains what we do and what we offer.

Describe a typical club meeting.

We invite visiting speakers to talk about their photography or about techniques; we hold internal club competitions with a visiting judge and critique evenings with a visiting facilitator. We have open evenings, with members offered a 10-minute slot to 'show and tell' us something about their current projects or seek feedback. We have a variety of other activities interspersed in the evening programme as well as photo trips.

What about guest speakers?

We have enjoyed some excellent presentations from Tom Wood, Viveca Koh, David Gibson, Guy Edwardes and many others. These evenings have been among the most inspiring activities of our society.

Has the club, or individual members, ever won any big competitions?

We have quite a list, including Ron Perkins who won the British Wildlife category in Wildlife Photographer of the Year 1999; Philip Joyce (2004) and Shelagh Roberts (2001) are both London Salon medal winners; Ivor Porter won 'best in show' three times in the Southampton International wildlife section; Philip Joyce was shortlisted in the Sony World Photography Awards (2016); Linda Wride has been RHS Photographer of the Year and commended International Garden Photographer of the Year... and there are more!

What about national photographic society distinctions?

Shelagh Roberts is our only FRPS. We have a number with ARPS, including Philip Joyce, Dave McKay, Bharat Patel, Gary Irvine, Linda Wride and Ron Perkins. Our LRPS members include Dave Stroud and Marilyn Ward. We also have a number of members holding awards from the PAGB, including Adrian Triggs and Peter Warrington, as well as many of those mentioned above.

What are the most popular photographic genres among your members?

Wildlife is probably the most active group, but street and landscape photography are also well represented. A large number of members would describe themselves as generalists with no strong affiliations to a given genre.

How old are your members?

Our youngest members are in their late twenties and oldest in their eighties, with a broad spread in between. We are also pleased to say that we have a high percentage of female members.

What are the club's goals for the future?

To continue to provide a focal point for people to share and enjoy photography, whatever their interests. We are always looking at new ways of enabling picture sharing without the vagaries of a judge and a sense that one picture is more worthy than another. However, we do have competitive members who are keen to see competitions continue, so I am sure we will cater for all.

Club essentials

Meets Every Tuesday evening from 7.30-10pm, between September and May at the Silver Band Hall, off Temple Road, Cowley, Oxford OX4 7EZ.

Membership Annual membership is £35; joint membership (for couples) £65 and associate membership (available to ex-members who have moved away but still wish to take part in club competitions and activities) is £15.

Contact contact@oxfordphotosociety.co.uk. **Website** www.oxfordphotosociety.co.uk.





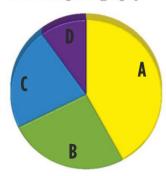












In AP 8 July, we asked...

It's Nikon's centenary. How do you think the photo industry will look in 2117?

You answered...

A Who knows? It's impossible to predict that far

B The standalone camera will have disappeared – cameras will be built into everything

42%

C Whatever the tech advances, there will always be a need for high-22% quality, dedicated cameras

D The only cameras will be broken old replicas in a blasted post-10% apocalyptic landscape!

What you said

"I selected the "Impossible to predict" option, but if I had to make up my own answer I'd go for the possibility of retinal implants that allow photographers to take a capture of whatever they're looking at, with the ability to edit the image by simply thinking about how they wish it to look. My vision of the future does, however, still include a number of people who maintain that analogue is best!'

'Optical and electronic imaging and recording will still have a place in family, hobby and professional life.'

'I do not expect there to be the same distinction between still images and video as there is today. The link between image recording and other forms of communication will most likely be refined still further, probably not by becoming a single device but by sharing a linking technology.

Join the debate on the AP forum

This week we ask...

How often do you remove objects from photos?

Vote online www. amateurphotographer.co.uk

nhox

Email amateurphotographer@timeinc.com and include your full postal address. Write to Inbox, Amateur Photographer, Time Inc. (UK), Pinehurst 2, Pinehurst Road. Farnborough Business Park, Farnborough, Hants GU14 7BF

LETTER OF THE WEEK

Nikon centenary

I suppose you might dismiss me as an unthinking loyalist, but my adherence to the cult of Nikon goes back to the early 1960s when I was posted by the R.A.F. to Hong Kong. There I found a



second-hand camera dealer. From him I purchased a Nikon S2 with three

lenses. Relying entirely on others for my developing and printing. I did not make the best use of the amazing kit I now owned. But I began to read AP, which revealed a new Nikon camera called the 'F' (above). I traded in my S2 for a camera without a meter, before rapidly upgrading to a Photomic. I was terrified of the camera and I still have it today - in almost pristine condition.

I remained in Hong Kong as a civil servant and became a regular visitor to the camera shops on Nathan Road. I added a couple of Nikkormat FTns to my collection. Over the remaining film years I purchased two Nikkormat ELs and finally an F100.

I was a reluctant debutante at the digital ball but I finally succumbed to the charms of a D70 – that proved equally terrifying. A D40 followed, then a D60, D3000, D200 and D300 (the best of them all).

Today I run a D500, an old but much-loved D300 and a Df which enables me to use all my old non-CPU lenses from the early 1970s. I don't expect to see the 150th Nikon celebrations. let alone the 200th. But as my wife sometimes says with a smile, 'This will see us out'.

Michael Kaye, London

Many thanks, Michael, and thanks too to everybody else who wrote in about Nikon - Geoff Harris, deputy editor

The EVO Plus microSD Card has added memory capacity and multi-device functionality. This UHS-I Speed Class 1 (U1) and Class 10 compatible card is perfect for capturing photos and video recording. www.samsung.com



All change

LUS MICROSD CARD, NOTE:

I notice that in recent issues one of my favourite features of AP, namely Inbox, has been reduced from two pages to just one. Is this policy or simply fewer people contributing?

Andrew Cathcart

Well it's certainly not the latter, Andrew - we've never had so many contributions, particularly via our Facebook page, which is why we've shifted the emphasis to that - Geoff Harris, deputy editor

Up in the air

Having just picked up AP I was particularly interested in Moose Peterson's airshow photography feature (Flying High, 1 July). Many years ago, I used to do quite a lot of this using film, when getting exposure right was crucial as there was no means of checking! I haven't done any for quite a while, but I am going to the Scampton Airshow in September and I intend to use a handheld meter to take incident readings.

The feature showed some superb images and plenty of compositional suggestions, but virtually nothing on exposure. The one thing a novice will get wrong. Along with the challenges of shooting silver aircraft, direction of light creating flare and glare. and, the old chestnut, shooting up into the air!

There is also the need to be very careful with exposure with wideangle lenses when including sky and bright areas.

By the way – the Hawker Hind came into service as a light day bomber. It was most definitely not a First World War aircraft. as stated in the feature.

Paul Broadbent, via email

When it comes to exposure, I use Shutter or Aperture Priority, which means the camera does all of the heavy lifting. I then dial-in Exposure **Compensation to communicate** the mood I am looking for. I don't have any magical 'exposure recipe', this has to come from the photographer and the story he/she is trying to tell - Moose Peterson



Our 1 July issue looked at the art of aircraft photography



www.streetphotography.com

Our Revolution is to expose the BEST for free. To inspire & educate. If you have outstanding street photography, street-portraits, street art-photography, street-documentary or have something impressive to say about the past, present or the future of street photography, then we'd like to hear from you. Visit the new website to discover more.



A guide to removing unwanted objects

However carefully you frame your shot, unwanted objects can creep in. So how do you get rid of them and how do you know which technique is best suited to which job? Rick Mcarthur is your guide

oreign or unwanted objects can include anything from sensor spots to crisp packets, and from telegraph poles to pedestrians. But such things don't mean your image is consigned to the dustbin - you can remove them effectively using software.

Photoshop's Clone Stamp tool is the most obvious object removal tool. So much so that cloning has now become a verb amongst digital photographers. But cloning is an art, and while some image repairs are relatively easy, others demand a great deal of skill, or a different kind of tool altogether.

In this feature we are going to look at a whole range of object removal tools and techniques to see how they work, which one is best for specific situations and just how much you can realistically remove from a photograph.

Before you can start removing unwanted objects from a picture you need to know whether it's going to be possible. That's where a full understanding of the software and techniques available will save you a great deal of time and trouble.

Copy and paste

So why can't you just copy and paste from a different part of the picture to cover up the objects you don't want? Actually, it's not such a daft question because there are occasions when this approach can work.

Let's say you have a photograph of an elegant building façade where one window is broken, or covered by an ugly airconditioning unit. You can select another 'good' window, copy it to a new layer in Photoshop and then use the transform tools to match its size, shape and perspective to the window you're covering up. You may be left with an obvious 'join' around your repair that you'll need to blend-in carefully with the eraser or masking tools, and you may need to make some tonal adjustments to allow for any difference in lighting and shading. But once done this can be a remarkably effective approach to object removal, especially for larger objects.

Cloning

Most photographers will turn to the Clone Stamp tool instead of copying and pasting. In reality, this is copying and pasting all over again, but on a finer, faster and more controllable level.

The essence of cloning is that you select a 'source' area near the object you want to remove (by right-clicking) and then dab or paint over the object you want to remove. As you move the cursor, the clone source area moves in parallel.

If you're cloning out small, clearly defined objects against a uniform background, sensor spots against the sky for example, there's no particular skill to this - you just need to find a clone source area as similar as possible in tone and texture to the area you want to repair.







With the help of some cutting and pasting, the Clone Stamp tool and the Spot Healing brush, the boats have gone

'Cloning is an art – some image repairs are easy but others demand a great deal of skill'

It's when you're cloning out objects against fine textures or patterns that things become more difficult. Small objects aren't too difficult as long as there's a clear area around them, and they don't intersect with objects you want to preserve, but larger objects can be a real problem – particularly if you don't have much of a 'good' area to use as your clone source.

There are a number of things to look out for, and to work around. Small shifts in tone and colour can pose major problems for the Clone Stamp tool. One area may look identical to another with the naked eye, but when you replace one with the other, any tonal or colour shifts will stick out like

a sore thumb. One simple solution is to reduce the hardness of the Clone Stamp tool. In effect, you're using a softer-edged brush. This reduces the precision of your repairs but blends them much more effectively with the surrounding areas.

Repeating patterns are another danger. If you constantly use the same clone source area for a large repair you will get the same objects, like small tufts of grass or rocks, repeated in the cloned area. This also happens if you make a repair and then use the repaired area as the clone source for another. Sometimes you can overcome the repeating pattern problem by continually changing your clone source (always good practice anyway), but sometimes you're trying to fix a problem that can't be solved with the clone tool.

The fact is that cloning requires time and skill, but there are there some faster, more effective alternatives.



Healing tools

There's Photoshop's Healing Brush for a start. This is like the

Clone Stamp tool in that it requires you to choose a source for the repair, but this tool then attempts to match the tone and colour to the area being repaired. You get the same object removal but without the colour and tone matching headaches.

It has a variant, the Spot Healing Brush tool. This time, there's no need to specify a clone source. Instead, it automatically chooses nearby areas. It can work brilliantly, but you won't know until you try it – and if it doesn't work there's very little you can do except undo it and try something different.

This is a general theme with 'intelligent' object removal tools. They use algorithms and processes you can't control, and they either work or they don't. You can often influence the results by 'repainting' the repair slightly differently, but that's about as far as it goes.

Photoshop's Patch tool falls into this category. It's designed for larger, more irregular repairs and it's like a cross between the Healing Brush and the Clone Stamp tools. You select the area or object you want to remove and then drag the Patch selection to a nearby source area. Photoshop will preview the repair to help you with the positioning, and when you commit the tool it attempts to match the tones and colours. Sometimes this

technique works, and sometimes you have to try something else instead.



Alternatives

Another alternative is Photoshop's Content-Aware

Move tool. This is designed for moving objects rather than removing them, and it works best if the object is against a plain background or a relatively regular texture or pattern.

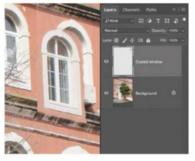
'Intelligent object removal tools use processes you can't control – and they either work or they don't'

Other software mirrors Adobe's contentaware technology. MacPhun's Snapheal plug-in offers automated object removal with a great deal of control over how objects should be selected but almost

STEP-BY-STEP: OBJECT REMOVAL USING PHOTOSHOP



THERE are two tricky aspects to object removal: first, working out what you can realistically fix and what you can't, and second, working out the best tool to use. This picture is a good example because it has a number of objects requiring different techniques. As you can see from this before and after comparison, there is a window at the top right with a nasty air-conditioning unit (copy and paste), some ugly dangling cables at the top left (Spot Healing Brush), the edge of another object in the paving at the bottom right (Spot Healing Brush/Healing Brush) and, trickiest of all, a big bollard to the right of the tree (Clone Stamp tool). We even took the liberty of pinching the oranges from the tree (Patch tool). You're unlikely to need all of these techniques on a single image, but it does demonstrate some of decisions you might face.



1 Copy and paste (and transform and blend)

Removing the air-conditioning unit is tricky as there's no suitable source for the repair. The answer is to copy a similar window from the floor below to a new layer and use the transform tools to match its size and angle. Copy the area around the new object for blending in.



2 Spot Healing Brush

Photoshop's Spot Healing brush is particularly good at removing small objects against complex backgrounds. Here, it has been used to take out half of this dangling cable in a single stroke. The trick is to keep the brush only just big enough to cover the object you want to remove



3 Healing Brush tool

You can think of the Healing Brush tool as a more advanced version of the Clone Stamp tool – you still have to select a source area for the repair, but it then tries to blend the repair with the existing patterns. You can then improve the results by 're-healing' any untidy leftovers.



4 Clone Stamp tool

The bollard we want to remove overlaps objects (shadows and paint edges) that we want to keep, so only the Clone Stamp tool can help us here. Tip 1: work in from both sides. Tip 2: match the angle of the edges by choosing your source carefully. Tip 3: use a soft brush setting.



5 Small and random objects

The Patch tool can be useful for larger objects like this cluster of oranges select the object or area, then drag the selection to the area you want to use as a source. The effect is previewed live to help you judge the best area, and the tones are 'matched' automatically.



Technique object removal

COMPETITION ETHICS

IF YOU'RE thinking of entering a photographic competition or photo association distinction process. removing objects can often be against the rules – organisers sometimes ask to see the original raw files to check. Generally, the integrity of the subject must be maintained, so you shouldn't remove fence posts, trees, or replace skies, for example. That said, some 'gardening', such as fixing highlights or cropping etc, is usually permitted. Check the rules carefully. There is usually more leeway in digital creativity categories.

none over how the repair is carried out. Instead, you have a choice of repair methods, or algorithms, and you have to use trial and error to find the best one for any given situation.

Serif's Affinity Photo, meanwhile, has an Inpainting brush that you can use to paint over objects you want to remove. Again, it can offer an instant fix that requires no effort and leaves an invisible repair – or it may not work how you want it to, so that you have to resort to traditional cloning techniques after all.

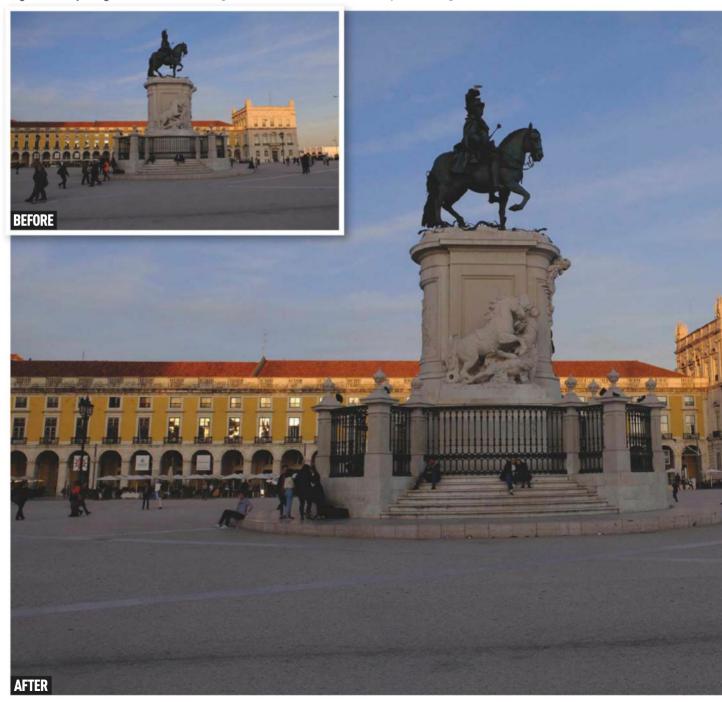
These intelligent object removal tools might feel a bit too hit-and-miss to be taken seriously, but they really can save you considerable time and effort. Just don't be surprised if you have to fix your images the hard way after all.

Using sequences

So how do you decide, right at the start, if it's worth trying to remove an unwanted object from a picture? There is a good rule of thumb here. You need a 'good' area, at least as large as the object you want to remove, for any kind of repair to have much chance of success. If the good area is a similar size, you might want to consider copying and pasting instead. If there isn't a good area to use for the repair, this is when the image might just be a lost cause.

Except in one special case. If it's obvious that you're never going to get a clear shot at a scene, but that all the unwanted objects in it are moving, then you can take a sequence of shots and merge them selectively in Photoshop.

This takes a little more planning and execution, but it's an effective solution to the



problem of pedestrians and traffic at landmarks. If you can, you should use a tripod so all the images align perfectly. If that's not possible and you have to shoot handheld, then you can still use Photoshop's Photomerge technology to align all the different shots automatically as a series of layers. From here, you can use the Eraser tool or layer masks to remove pedestrians from one layer to reveal the same, hopefully pedestrian-free, area in a lower layer.

It's a more painstaking process, but it makes it possible to produce a 'clean' version of a scene that would be impossible to achieve with a single image and object removal tools, no matter how sophisticated they are.



ALTERNATIVES TO PHOTOSHOP

PHOTOSHOP isn't the only software capable of object removal, of course. Here are five alternatives. While the names of the tools might be different, the basic principles are the same. Many other programs offer Clone Stamp tools like Photoshop's and there are equivalents to Photoshop's Healing Brush and Spot Healing Brush. It's increasingly common to find intelligent object removal tools that automatically fill-in repaired areas using surrounding image details. As with Photoshop's content-aware technology, these are 'fuzzy' fixes that may work brilliantly or may prove to be a disaster. Despite claims made by software publishers, intelligent healing tools are still very hit and miss. In the end, you may find yourself resorting to the Clone Stamp tool, often to clear up small imperfections left behind by other tools. For successful object removal, one tool is often not enough and you may have to resort to a variety of techniques.



2 MacPhun Snapheal

Part of MacPhun's Creative Kit, Snapheal is a plug-in designed solely for object removal. You paint over or select the object to be removed and apply one of three object removal methods to see which works best. If none of them work, you can use a regular cloning tool instead.



4 ON1 Photo RAW

ON1 Photo RAW is an all-in-one image browser, editor and effects tool that also works as a plug-in for Lightroom and Photoshop. It has a Clone Stamp tool and a Healing Brush tool – here I used the Clone Stamp to get rid of an ugly concrete slipway at the left edge of the picture.



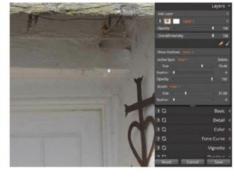
1 Adobe Lightroom

Lightroom's Spot Removal does a lot more than its name suggests. It's brilliant at blotting out sensor spots but can also be used to paint over larger objects. It has Clone and Heal modes, and you can move both the source and the destination areas if you need to.



3 Serif Affinity Photo

Serif Affinity Photo has similar object-removal options to Photoshop, including Healing Brush, Patch and Blemish Removal tools. It also has an Inpainting Brush tool for simply painting over unwanted objects. I've used it here to remove some rocks from the water in this sunset shot.



5 Alien Skin Exposure X2

Perhaps better known as an analog film effects plug-in, Expsosure X2 is actually a very capable all-round image editor too, and it incorporates a Lightroom-style Healing tool. It's non-destructive, so you can move the source and the destination areas afterwards if necessary.

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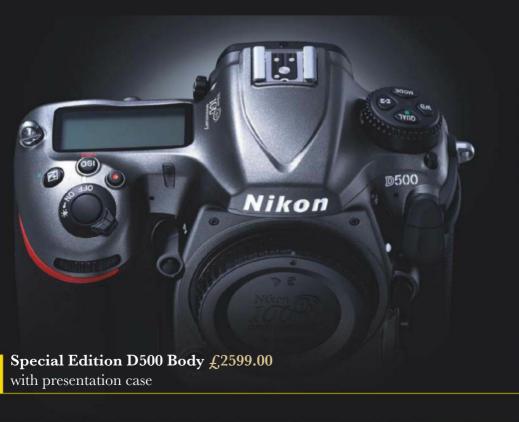
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EISA Maestro UK

We take a look at the top three UK EISA Maestro competition winners



EISA Maestro competition winners

The theme of the 2017 EISA Maestro competition was street photography. The winning entries from each of the 14 participating EISA countries were judged together at the Association's General

Meeting in June 2017 and the final results will be revealed at the EISA Gala in September. The overall winner will take home a cash prize of €1,500 and the EISA Photo Maestro 2017 Trophy.

The overall winner from the UK, as selected by the AP team, is Tony Sellen and we see his work here, as well as that of the two runners-up Trevor Cole and Feldore McHugh.





Tony Sellen, Essex

'I love travelling, I always have.' says Tony. 'After returning from so many trips I thought it would be nice to have these memories shown the best way I can. I got myself a DSLR and started learning its features and functions. Since then I've carried my camera everywhere I go. Photography makes me travel more in order to find new locations and scenes that capture the imagination. It also takes me back to places I've already been to see if I can create something different from before. Photography for me is showing something in vour own wav.'

www.facebook.com/ londonfineartphotography







The images
Tony's winning images of London are notable for his incredible use of black & white, light and minimalism. As he says, 'When I first started my photography I focused on wildlife, but living close to the city means there aren't as many opportunities as I'd like. I now focus more on cityscapes and architecture. London has some of the most famous and beautiful cityscapes in the world. With its impressive skyline forever changing, there is always something new to see or something else to find.'





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geography in international schools. Ethiopia has become one of his favourite destinations, probably as a result of having lived there for four years. In the future he hopes to travel to Papua New Guinea.



Trevor Cole, Londonderry

Trevor's initial dabblings in photography soon became a lifelong passion stimulated, initially, by his travels to far-off lands and then while teaching





'I am an eclectic photographer seeking the best light in whatever context I find myself,' says Trevor. 'I have a love of landscapes and the interactions between them and the people who are connected to them. I am perpetually drawn to the diversity of people on this planet and in particular those who are indigenous, hence many of my images are focused on portraiture and the life of those who exist in some of the more remote areas of the planet.









The images

As you can see in these images from China, Feldore has a love of street photography. He's particularly a fan of taking candid portraits, as people go about their everyday life, unaware of the photographer in their midst. There's a classic element to Feldore's images in his observations of seemingly mundane scenes elevated to almost magical status by the conversion of each image to black & white. Many street photographers can perhaps relate to Feldore's reasons for pursuing street photography – he's attracted to the absolute unpredictability of it. You never know what you'll find around the next corner.



EISA Maestro UK



Feldore McHugh, Belfast

Feldore has been taking photographs for many years, since he was 13 in fact. He's travelled far and wide to hone his skills and hopes to visit Japan in the next couple of years and document it through his images. **www.feldoremchugh.com**







Mark Pain

Mark Pain is a multi-award winning sports photographer working at the top of his profession for more than 30 years. He has twice been named Sports Photographer Of The Year and was named as the Olympics Photographer Of The Year for his work at the London Olympics. He launched the UK's first Sports Photography School in 2011. Visit www.markpain.com and www.sportsphotographyschool.co.uk

eing prepared to capture the moment and literally being ahead of the game is a crucial aspect of photographing golf tournaments. This means being technically, physically and mentally prepared. For competition golf you simply have to be in place early before a player starts addressing the ball. Once he/she is addressing the ball you can't move or fire the shutter until they strike it. Therefore it's crucial to carry your gear in a way that's both comfortable and accessible, allowing you to move fast from A to B but also in a way that allows you to access the lenses you need quickly.

For me a Think Tank Pro Speed Belt with various lens and accessory pouches is by far the best option. It's easily the most comfortable way to keep lenses accessible whilst walking at speed. I work with a Nikon D5 and use a 500mm f/4 as my main lens on a monopod, but I also carry a camera with a 70-200mm f/2.8 lens on my other shoulder. I have a 14-24mm and a 24-70mm lens in my waist belt for times when I need a wide angle, maybe from behind a player when they're playing out of a bunker, or in the trees when they have driven wide off the tee or into the spectators. I always shoot in Manual as you have to expose for the player's face, which is invariably under a cap, but the camera doesn't know that!

Think about the shapes the player is going to make when they play their shot and be prepared for anything to happen, just like in my famous image of Tiger Woods [right]. The sooner you are in position, the less of a distraction you will be to the player. Golf is a game that should be both played and photographed in silence, until the player strikes the ball – it's all about preparation.

TOP TIPS

Walk the course

It's a good idea to walk the course before the event starts so that you know what to expect on each hole and exactly where you can walk. Locate any shortcuts you can take. Keeping ahead of play is absolutely crucial when it comes to covering a tournament.

Travel light

Keep your gear as light and accessible as possible, and be prepared for any weather, especially during UK tournaments. Don't carry too much equipment with you – you may be walking around for hours. It's important that you wear dark or neutral clothing to ensure that you don't stand out from your surroundings.

Pace yourself

Plan your day and pace yourself carefully. When you walk the course beforehand think about the light that will be on the course at different times of day. Know where the sun will be for each hole at different times of the day too. The light will invariably be softer and more dramatic at the beginning and end of each day, so make sure that you plan accordingly.



Above: The Open Championship, St Andrews, Scotland Nikon D3, 70-200mm, 1/500sec at f/5.6, ISO 400

Right: Tiger Woods' ball hits my camera during the 2010 Ryder Cup Nikon D3, 70-200mm, 1/1000se at f/2.8, ISO 640











Kevin Murray

Kevin Murray has photographed nearly 300 golf courses to date, and his previous clients include World Atlas of Golf, St Andrews Links and Rolex who used his imagery in its global advertising campaigns. As staff photographer for *Golf Monthly* he has captured portraits and action shots of the world's best players.

Visit www.kevinmurraygolfphotography.com.

s a former creative director of my own advertising agency, I allow my skills in creative marketing and art direction to inform my photography. By capturing the real beauty of the world's golf courses I like to think I bring a fresh and original approach to the industry. The pictures I take are quite fine-art based, but they still sit comfortably within the world of PR and marketing.

The transition from art directing photographers to taking the shots myself was surprisingly seamless. Having studied photography as part of my degree course many years ago I only needed a quick refresher course to get up to speed with the digital revolution. The first task was to invest in the right equipment, and after some serious research I decided that Canon would give me the best results for shooting courses and player assignments for *Golf Monthly* magazine.

I have three Canon backs: an EOS 5D Mark III, EOS 5D Mark IV and EOS-1D X, but I mostly reserve the latter for swing sequences. My lenses include an EF 17-35mm, EF 24-70mm Mark II and an EF 100-400mm Mark II. When shooting golf courses my settings will vary due to the time of day I'm shooting. In the summer I will be on site by 4.30am, so the low light as the sun rises means that I'll need a higher ISO to allow for clarity, definition and tonal range for each file. I rarely use a tripod, purely because of the physical challenges of setting up for the many angles and elevated locations I might need to get into for each shot.



Above: Professional golfer Rory McIlroy Canon EOS 5D Mark II, 70-200mm, 1/3200sec, f/5.6, ISO 250

TOP TIPS

Look for a focal point

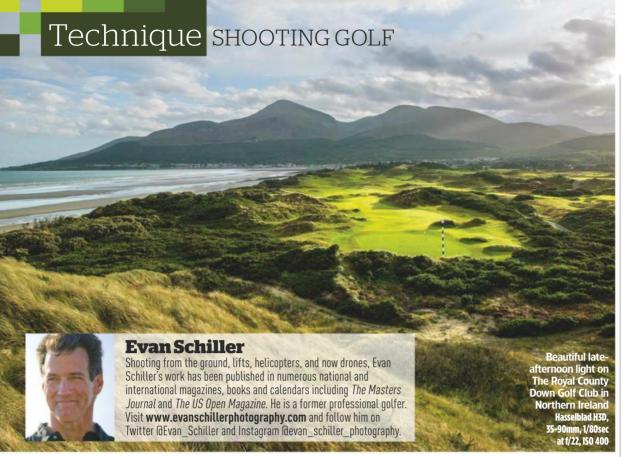
Recce the course you're shooting, and know which holes will be more suitable as a morning or afternoon shoot. Always look for a focal point: it could be the flag on the hole, or a player on the course.

Compose your shot

Be aware of your composition – balance is key here. Don't be afraid to shoot in all conditions: golf is played all year round so capture the drama of different light.

Use editing software

What you don't achieve in-camera can often be achieved using editing software. I work on my images in Photoshop – it's labour intensive but for my clients it's critical, in order to give them the very best professional results.



ver the last 22 years I have had the opportunity to photograph more than 600 championship golf courses. During this time I have captured images of some of the most iconic courses around the world including Pebble Beach Golf Links in California, Augusta National Golf Club in Georgia, and The Old Course at St Andrews in Scotland. I've also had the opportunity to shoot The Masters, The US Open, Ryder Cup and PGA Championship.

Getting to know the golf courses I photograph, and the light patterns and times of day to shoot each hole in optimal light, is essential. I try to scout each course as thoroughly as

I can so that I can anticipate where to be at critical moments, be it when the sun rises or just before it sets. I also work closely with each golf-course superintendent to ensure the course is looking its best at the time of the shoot.

I use a Hasselblad H6D-50 with 35-90mm lens and a 50mm prime. I prefer medium format over 35mm and, in my view, Hasselblad is unsurpassed in its craftsmanship and quality of glass. I also use a DJI Inspire 2 drone.

When using my Hasselblad I always use apertures between f/16 and f/22, as I want to get maximum depth of field. Using such apertures requires me to shoot anywhere between 1sec and 1/15sec, depending on the light.



Pebble Beach Golf Links, California, USA Hasselblad H3D-50, 50mm, 1/8sec at f/22

TOP TIPS

Know your subject

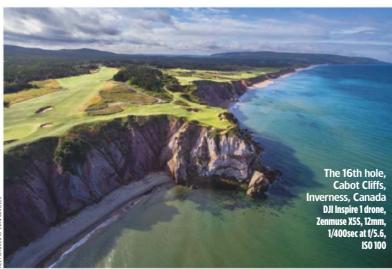
I've been around golf since I was two, so my golf IQ is pretty high! There is great value in getting to know any subject you're photographing. When you know the layout of the holes, and you've scouted the course, you'll be ready when the moment arises.

Find an elevated spot

Light and composition make all the difference. Shoot early in the morning or late in the day. Get some elevation if you can by using a ladder or a mound. It will give you a much better perspective. For instance, at this time of the year (June/July) I usually have to get up between 3am and 4am to be at a course by 5. I want to be ready by sunrise.

Use Lightroom

Learn how to use a post-production application such as Photoshop or Lightroom well. Trust me, the effort will be worth it. Below: Glen Golf Club, North Berwick, Scotland Canon EOS-1D X, 70-200mm, 1/250sec at f/9, ISO 1000









've travelled to every continent in my quest to shoot dramatic images of world-class players, major tournaments and atmospheric golf courses. Using my golf knowledge I aim to capture images from the golfer's perspective and from the air, enabling me to cover entire courses and specific signature holes.

Photographing golf involves very early starts and very late finishes. If I'm shooting courses I will be up around 4am, shoot for around three hours, and then another three hours in the evening. When I'm capturing

tournaments I walk vast distances - I can cover more than 36 holes a day for seven days during a major championship. All of this has to be done while carrying a very heavy Canon 500mm f/4 IS lens. I have used the Canon system for more than 20 years; in my view it's the best for sports photography. I use a Canon EOS-1D X, a Canon EOS 5D Mark III, a Canon 70-200mm f/2.8L lens and a Canon 16-35mm f/2.8 L lens. I carry all this for more than 12 hours a day in high temperatures, normally consuming a bottle of water on every hole.

TOP TIPS

Know the course

Know the golf course backwards check where the sun rises and sets, and the best tees for action. For dramatic images look for backlit holes that are tough to play as players may get in trouble. There are silent features on the Canon system so you can shoot at the top of the backswings, and not disturb the player, which helps.

Understand the game

You need to understand golf: there are a huge number of rules, and you have to respect the players and be careful not to move or make any noise when a player has addressed the ball. As a result, you have to be quick to get to certain locations before the player.

Check the weather

what is coming at you hour by hour it can help you to get great pictures. If you know the sun is coming, you can head to a certain tee that works. Equally if a storm is approaching you can get very dramatic images just before it rains. All golf photographers need a huge amount of wet-weather gear sometimes it can be a two-mile walk back to the clubhouse or media centre.

Above: Trump Golf Links, Ferry Point, Bronx, New York, USA Canon EOS-1D X, 70-200mm, 1/800sec at f/6.3, ISO 640





For golf tips, expert instruction and equipment reviews see our sister title Golf Monthly, www.golf-monthly.co.uk.

Reader Portfolio

Spotlight on readers' excellent images and how they captured them



Mariana Moraes, Brazil



Mariana's background is in moving images. She graduated with a degree in film, so a lot of her photography knowledge was born in that field. Her favourite subjects are people, due to the ability to tell a different story depending on who

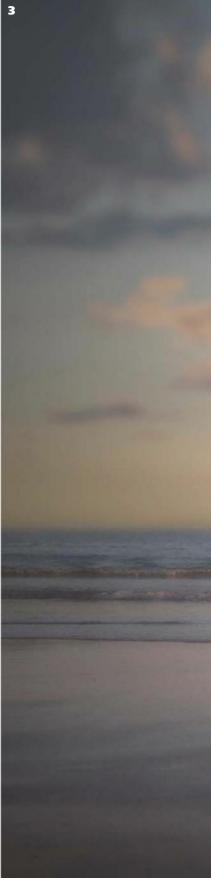
is sitting in front of her lens and how the viewer decides to interpret the final photograph. Mariana generally photographs friends and family, but is also partial to photographing strangers on her travels. To see more of her work, visit www.marianamoraes.46graus.com.

Portrait of Adam Island Boys

1 Here we see how the combination of natural light and ring flash has come together to create a beautifully lit image Nikon D700, 35mm, 1/250sec at f/5.6. ISO 1000

2 This image is part of a series taken on the island of San Andrés. The goal was to shoot the inhabitants of the island in a poetic way Nikon D700, 35mm. 1/250sec at f/5.6. ISO 1000





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Eightweight and portable, the Manfrotto PIXI EVO boasts two different leg angles with a sliding selector enabling you to shoot ground-level images. It's adjustable, with two-section legs featuring five different steps that adapt the footprint to uneven surfaces. With a payload of 2.5kg, you can tilt the camera 90° to capture incredible images.



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Ode to Sorolla 3 As a fan of the painter Joaquín Sorolla, Mariana was keen to create her own particular homage with this idyllic scene Nikon D700, 105mm, 1/640sec at f/10, ISO 200

Street Shark

4 Mariana has perfectly captured this scene with a considered composition and a high-angle view to contain the action
Nikon D700, 50mm,
1/500sec at f/6.3,
ISO 800

Yesterday
5 This comes from the same series as image 2. It's a striking and confident portrait with beautiful light
Nikon D700, 35mm, 1/250sec at f/5.6, ISO 1250



Depths Success

In his native Norway **Audun Rikardsen** is a professor in freshwater and marine biology, but to his nature and wildlife photographer peers he is the one to beat. **Keith Wilson** talks to him about killer whales, split pictures and trashing Canons

n less than three years, Professor Audun Rikardsen of the University of Tromsø has been named the overall winner of no fewer than seven international wildlife and nature photography competitions, including Nature's Best, the Global Arctic Awards (twice) and the Oasis photo contest, his most recent success. He is also the current European Wildlife Photographer of the Year and

holder of the Fritz Pölking Prize – the first photographer to be awarded these accolades in the same year. Admittedly, he hasn't yet been named overall winner of the prestigious London-based Wildlife Photographer of the Year competition, but in 2015 he won the portfolio category, possibly the toughest in the competition, and many expect his name to be called when the 2017 winners are announced in October. His

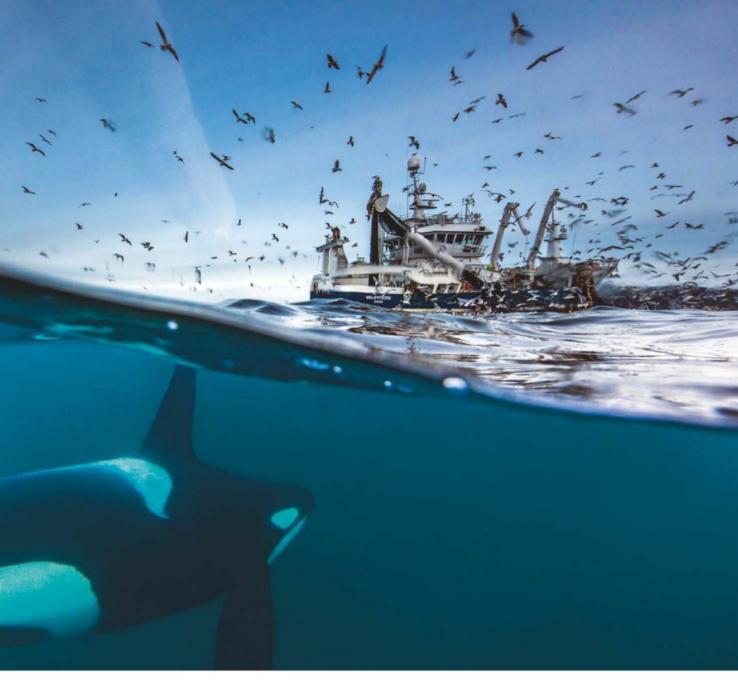
Below: A brown trout returns to spawn in an Arctic river. One of the images from Rikardsen's winning portfolio category in the 2015 Wildlife Photographer of the Year Canon EOS-ID X, Samyang 14mm f/2.8, 35secs at f/22, ISO 640, 2x Canon 600 strobes





extraordinary run of success is even more remarkable when you read this one salient fact: Audun Rikardsen only picked up his first DSLR in 2009 and had his first competition success just two years later.

Rikardsen is not your stereotypical professor; he is a tall, lean man with a shaved head, a big smile and an eye for a good single malt. He lives and works on the northern Norway coast near Tromsø, above the Arctic Circle. This is where he has always lived and where he finds inspiration for his photography, but he remains first and foremost a scientist. 'I try to use my pictures in my science and it works the other way - I use my science to take the pictures that have stories to tell. My photography has evolved since I started in 2009. The first year was just about getting a nice picture and now it's more about telling a story, in a single image as well as a series of pictures.'



'I try to use my pictures in my science and it works the other way – I use my science to take the pictures that have stories to tell'

As a marine biologist, Rikardsen's fieldwork has taken him all over the northern Atlantic, from Norway to Greenland. But it is the freezing Arctic waters close to his home where he has developed an intimate knowledge of the movements of the whales, seals, herring and salmon that abound in these waters. It was on a field trip with fellow scientists to Bear Island in the Barents Sea that he took up his first photographic challenge. He recalls: 'A colleague had a Canon 5D Mark II and a 500mm lens, and I challenged him by saying, "I'm going to take as good a picture as you. It's not about the equipment – it's about the person behind the camera." I was using

a Canon PowerShot! It was a real awakening for me and it was really good to see the difference, so I bought a 5D. That was autumn 2009 and it was my first digital SLR.'

Today, Rikardsen's kit includes a multitude of Canon EOS bodies: 7D, 6D, 5D Mark III and IV, 1D X and 1D X Mark II, as well as a full complement of Canon L-series and Tamron lenses from an 8-14mm ultra-wide zoom and 90mm macro to 100-400mm and 150-600mm telephoto zooms.

Mixing art and science

Despite his growing reputation as a photographer, Rikardsen continues to work as a full-time scientist, but Above: A killer whale approaches a herring boat as it hauls in its catch. Part of the award-winning portfolio in the 2016 Fritz Pölking Prize Canon EOS 5D Mark III, 11-24mm 1/4L, 1/200sec at 1/6.3, ISO 640

his studies and experiments sometimes provide the inspiration for his photographs, including one of a humpback whale fluke (overleaf) and another of a sea trout (left) that formed part of his winning portfolio in the 2015 Wildlife Photographer of the Year competition.

'For that picture of the whale fluke, I started off by making a flash system for taking ID shots of the whales and then I thought, "This is working quite well – I can do more of this." Also, with the sea trout in the dark, I know that river intimately, so I know where to find the fish, when to find the fish, and as a scientist I know how to attract the fish with light. I use the same methods that I use as a scientist, so having the background as a scientist I think was very important for making that picture.'

The knowledge he has acquired of the animals and







ecosystems of his local area has been instrumental to his success, most notably in his set of images, entitled 'The Polar Winter Feast'. Not only did this portfolio win the coveted Fritz Pölking Prize, awarded by the German Society of Nature Photographers (GDT), but also one of the images featuring an orca taking a breath on the surface on a freezing polar night in January (above), earned him the title of European Wildlife Photographer of the Year, 2016.

This winning portfolio depicted the uneasy relationship between fishermen and killer whales, which have learned to attack nets bulging with herring as they are winched up to the deck from the freezing depths of the Nordic fjords in winter. 'They can often tell by the sound of the boat if they have a lot of herring in the net or not,' says Rikardsen, 'and they know by the sound of the winch exactly when to hit. They are becoming more and more aggressive and can potentially endanger fishing equipment, which occasionally they

Above: A breath in the polar night. The photograph that earned Rikardsen the overall title of European Wildlife Photographer of the Year, 2016 Canon EOS-ID X, 24-70mm f/2.8, ISO 4000, Canon 600 strobe

have done. They have also figured out methods to empty some of the nets, lifting the nets from underneath so the herring falls over.'

Split-level challenge

Documenting this story in one frame but on two levels – the fishermen on the surface and the whales beneath – meant he had to shoot split-level, with the camera and lens in a waterproof housing but only partially submerged. This is a straightforward practice for underwater photographers who shoot fish close-up in warmer waters and bright sun, but attempting this technique on whales in the 24-hour darkness of the polar winter in mid-January was beset with obstacles.

However, Rikardsen's scientific mind was up for the challenge. He explains: 'What you usually have is a dome [underwater housing], which is rounded. It's excellent for taking split pictures, particularly with super wideangles or fisheyes. However, the dome at the front works like a lens, and the water itself works like a lens, so the focus above and below the water is totally different. If you set the lens to infinity, the infinity below the water will only be about 30 or 40cm in front of the lens. To get around that, you usually use a small aperture, but you can't do that in low-light conditions. You either have to focus sharp underwater or above water, but the other part will be blurred.'

Rikardsen wanted maximum sharpness and depth of field both above and below the waterline. The answer was to design a home-made housing that was flat. He continues: 'I made a big "flat dome", because with flat glass, as with a diving mask, you have the same sharpness both above and below the surface.' This flat glass-housing solution meant he could now attempt the pictures he envisaged: showing sharply focused images of a whale below the water and fishing boats or coastline above, during the low light of the Polar winter months. Such pictures were included in



'Documenting this story on two levels meant he had to shoot split-level, with the camera in a waterproof housing but only partially submerged'



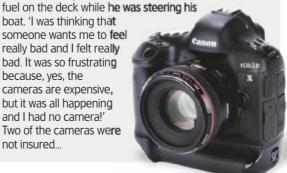
Above: The fluke of a diving humpback whale lit by flash. Rikardsen had been experimenting with flash to ID whales, as part of his marine biology fieldwork Canon EOS-1D X, Tamron SP 70-200mm f/2.8 Di VC USD at 70mm, 1/250sec at f/3.5, ISO 2000

Crashing Canons

RIKARDSEN'S glittering array of awards has come at a price – last year, he lost three cameras in as many weeks. First was a Canon EOS-1D X, the victim of a heavy snowfall. Then, while snorkelling with his Canon EOS 5D Mark III, photographing killer whales, he noticed his home-made housing was full of water. 'One of the clamps wasn't shut,' he recalls, 'so it flooded. Killer whales were feeding on herring in shallow water and it was all there in front of me! It was a dream situation and my camera broke. I didn't have any other cameras. I was so pissed!'

He then bought a replacement EOS-1D X but lost that on its first outing when it fell into a pool of seawater, oil and

boat. 'I was thinking that someone wants me to feel really bad and I felt really bad. It was so frustrating because, yes, the cameras are expensive, but it was all happening and I had no camera!' Two of the cameras were not insured...





last year's Fritz Pölking Prize-winning portfolio. One of the images, showing an acrobatic humpback whale arching beneath a snow-capped mountain on the Norwegian coast (see previous page), was awarded the overall grand prize in this year's Oasis International Photo contest.

Fishing for ideas

Rikardsen's innovative split-level depictions of marine life in the Arctic waters of the North Atlantic have certainly captured the imagination of photography judges all over the world. His access to his subject matter may be unrivalled, but it is his enquiring and analytical mind that led to these pictures being realised in the first place. Another important factor is his familiarity with the working lives of the local fishermen; he grew up in a small fishing community and his grandfather was a whaler. It was while observing a killer whale tailing the fishing boats as they hauled in their nets one day that sparked the idea that ultimately led to the innovative technique behind his photos. 'I was watching this happening from my boat, alongside the fishing boats, and I could see this killer whale so close,' he recalls. 'I was thinking, "I would like to document this but I would like to see it also from the whale's perspective." That was the idea I got into my head.'

Above: A shoal of herring photographed in the polar winter, Part of an award-winning portfolio in the 2016 Fritz Pölking Prize Canon EOS 5D Mark III, 14mm f/2.8L II, 1/800sec at f/8, ISO 3200

However, the challenge did not conclude with the construction of his "flat dome" housing. The difference in the light intensity above and below water was vast, especially in the polar winter of late October to late February, when these photos were taken. Rikardsen explains: The light source is usually very low on the horizon or just below the horizon, so all the light that comes from that direction, which of course is the sun, reflects on the surface. The difference in light intensity above water and below water is much, much higher than in highlight conditions when the sun is higher up.' The solution was to use neutraldensity graduated filters on the lens inside the housing. 'I made it so I could turn it and adjust it from the outside, and then when I held the dome, I had to have it exactly 50:50 above and below the water.'

Rikardsen's underwater and split-level photos are driven by a desire to depict the animal's perspective of stories that rarely get beneath the surface. Returning to the photo of the killer whale and the fishing boat, he says, 'To me, that tells not necessarily the one story, but it might tell two stories that are connected to the surface. That is what fascinates me about the split picture, that it should tell two stories, above and below water.'

His photographs are doing more than just winning prizes - they have also become an important part of his university lectures and he reckons they help the students gain a better grasp of their studies. 'I use my pictures to tell stories to the students and they love it. They also remember more because there's not a lot of text and figures, it's a picture and the story behind it. They remember pictures much more than words, so quite a few teachers could benefit by using less text and more pictures.' That may well be true, but how many other university professors are capable of taking award-winning pictures like Professor Audun Rikardsen?



Audun Rikardsen was born in 1968 and grew up in northern Norway, above the Arctic Circle. He lectures in the Department of Arctic and Marine Biology at the University of Tromsø and began a second career as an award-winning nature photographer in 2010. Since entering his first photography competition in 2011, he has won 25 major international photography awards. See www.audunrikardsen.com. The GDT European Wildlife Photographer of the Year is hosted annually by the Society of German Nature Photographers (GDT) www.gdtfoto.de. Wildlife Photographer of the Year is owned by the Natural History Museum, London. See www.nhm.ac.uk/wpy.



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Tamron's new superzoom covers an astonishing zoom range and benefits from a light and compact form factor. **Michael Topham** tests the first sample

uperzoom lenses have been, and always will be, a popular choice for many photographers. They are often the first lens people look at after growing out of a standard kit lens and are typically defined by a moderate wideangle start and a reasonably long telephoto finish, differentiating them from standard zooms which end at a short telephoto length and tele-zooms which start and end entirely in the telephoto range. The strong interest from those who want to enjoy wideangle to ultra-telephoto photography using a single lens has seen many lens manufacturers develop their line-ups - the latest being Tamron which has just released the

world's first ultra-telephoto all-in-one zoom lens for APS-C DSLR cameras, covering a phenomenal 18-400mm range.

Unlike your average superzoom that typically offers a focal length of 18mm at the wide end to anything from 125mm to 270mm at its longest zoom setting, the lens we're looking at here brags a 22.2x zoom ratio and boasts an effective range that's equivalent to 27-600mm in 35mm terms when the 1.5x crop factor is considered. On Canon APS-C DSLRs. which enforce a 1.6x multiplication factor, it's equivalent to a 29-640mm zoom.

Ever since Tamron launched its first superzoom in the form of the AF 28-200mm f/3.8-5.6 Aspherical lens in 1992, we've seen the manufacturer strive to develop a stronghold in this zoom category. This latest all-in-one zoom exemplifies how far lens design has come in 25 years, but can a lens that attempts to be successful across such a broad focal range produce acceptable results and a level of performance that meets our expectations? With one of the world's first working samples in our possession, we gave it a thorough test to find out how it performs.

Favoured by photographers who'd like to switch from wideangle to ultra-telephoto without changing lenses, superzoom lenses are considered highly versatile optics well suited for a wide range of subjects including travel scenes, wildlife, sports, portraits, landscapes, cityscapes and food photography. Being a lens that's intended to be popular for



travel and everyday use, Tamron has made a conscious effort to make it as lightweight and compact as possible. It weighs 705g, which is 250g heavier than Tamron's 18–270mm f/3.5–6.3 Di II VC PZD lens, and measures 121.4mm when retracted.

A new lens barrel design utilising three-step extensions had to be designed to enable the necessary elongation to produce the 22.2x zoom ratio, with the optical construction seeing 16 glass elements arranged in 11 groups. As well as featuring two moulded glass aspherical elements and one hybrid aspherical element, the optical design includes three low dispersion (LD) elements to help minimise chromatic aberrations and distortion, which is often a bugbear on this type of lens. The optics are also designed to be resistant to flare, aided by the application of Tamron's broad-band anti-reflective (BBAR) coating.

With a maximum magnification ratio of 1:2.9 and a minimum focus distance of 45cm, the lens doubles up as a useful lens for tele-macro photography. Elsewhere, it features Tamron's latest High/Low torque modulated Drive (HLD) motor that's designed smaller to take up less space and ensure the lens goes about its business accurately and quietly. To keep hand shake in check it also benefits from Tamron's VC (Vibration Compensation) system, which allows users to shoot up to 3 stops slower than would otherwise be possible.

Tamron has added some other user-friendly

features too, including moisture-resistant construction with five internal weather seals.

Nikon users will find that the lens uses an electromagnetic diaphragm, which brings a number of operational benefits for live view and video. However, while this will work on all Nikon DSLRs introduced from 2010 onwards, it's worth noting that it won't work with any that pre-date 2007. The lens is consequently incompatible with the D2-series, D1-series, D200, D100, D90, D80, D70-series, D60, D50, D40-series and D3000 DSLRs.

At the front the lens accepts screw-in filters and adapters via a 72mm thread. It also has a bayonet mount to accept a petal-type plastic lens hood, which can be reversed without hindering the operation of the zoom ring.

Build and handling

The appearance of the lens is in keeping with Tamron's current line of premium SP lenses, though as one might expect for a lens of its stature it doesn't have the same solid feel. The matte black barrel with its white numbering and lettering looks smart and its plastic finish contributes to its lightweight appeal. Towards the rear you get an additional seal around the lens mount to prevent dust and moisture creeping into the camera body and there's a zoom lock that can be engaged at 18mm. This was rarely used as our test sample showed no signs of zoom creep in the zoom range when it was carried over the shoulder or pointed down.



'It feels adequately robust for the type of user it's aimed at'

On the opposite side of the barrel you're presented with two switches. The lower of the two is used to turn the vibration compensation system on and off, with the switch above it used to control AF/MF. Ahead of these is a large rubberised zoom ring that benefits from a short rotation of just over a quarter turn to operate it from its widest focal length to full telephoto. What this means in practice is that vou can shoot wideangle shots one minute and quickly extend to full telephoto images the next with a single hand movement. The zoom does operate smoothly from 18-70mm, but a little extra effort is required to shift the optics between 70mm and 250mm. It gets a little easier again beyond 250mm to its maximum 400mm setting. As for the focus ring, this is found just in front of the focal length markings. The plastic is ribbed to enhance grip but isn't rubberised like the zoom ring. It doesn't offer the same level of resistance as the zoom ring either and works across the focus range with 45° of rotation.

The lens extends by approximately 110mm when it's used at the long end. When you use the lens handheld at 400mm it's best to rest the centre of the lens in your palm and pull your hand back slightly when the focal length needs to be adjusted. Support the lens too closely to the camera and you're unlikely to achieve the same level of stability.

Overall, the build quality and finish are of a good standard and it feels adequately robust for the type of user it's aimed at. You don't get premium features like a focus distance window or a lens collar, but then again these features are rarely found on superzooms at its price.

Autofocus

The latest generation of Tamron lenses have come on a long way in terms of their autofocus performance. Though the High/Low torquemodulated Drive isn't silent and does make low-frequency whirring noises when focusing between near and far subjects, you'll be hard pushed to trace it in movie footage unless you're working in quiet surroundings with virtually no ambient sound. The lens locks on to static subjects hastily at wide focal lengths where focus distance shifts tend to be small and it demonstrated that it's reasonably snappy at acquiring focus at longer focal lengths.

Image quality

Before analysing image quality, I conducted several image stabilisation tests throughout the focal range. The lens's VC system performs admirably and I had no difficulty shooting sharp handheld shots at as slow as 1/8sec at the wide end of the zoom. Pushing to the furthest extent of the zoom, I also managed to shoot several sharp frames indoors of a static subject using a shutter speed as low as 1/25sec.

After inspecting images taken with the lens, I analysed our lab results. The lens produces its







These two shots of the church and clock face clearly show how far you can zoom in to a distant subject

sharpest results at the widest end of the zoom range, with edge-to-edge sharpness peaking at f/5.6. Zooming in to around 70mm sees a slight drop in sharpness that is most noticeable at the corners. Stopping down to f/8 does improve centre and edge sharpness at this focal length, but the impact of diffraction does soften overall sharpness beyond f/11. There's usually a compromise you have to make on choosing a lens that covers such a wide focal range and this comes in the form of sharpness at the long end of the zoom. As the images that support this review show, it is possible to walk away with usable results from using the lens at 400mm, although users shouldn't expect to be overwhelmed by the level of sharpness at the long end.

With regard to distortion, there's obvious barrel distortion at the wide end that turns to pincushion distortion rather rapidly in the focal range. Unfortunately there's no way for third-party lenses to benefit from in-camera distortion correction with either Canon or Nikon DSLRs, meaning you're best off shooting in raw so you can correct for it later on your computer as soon as a lens profile is available.

As for vignetting, this is quite obvious when shooting wide-open, particularly at the widest end of the zoom. Stopping down to f/5.6 does see an improvement, but stopping down to f/8 can minimise it further. Again, it's advised to shoot in raw so the light fall-off towards the corners can be rectified easily.

A close examination of raw files revealed the lens exhibits obvious chromatic aberration (CA) through its zoom range. At the wide end I noticed traces of green and purple fringing along high-contrast edges and at longer focal lengths there were signs of blue and yellow fringes of colour. Aberrations were brought under control by placing a tick in the Remove Chromatic Aberration box beneath the lens corrections tab in Camera Raw.

Verdict

Tamron has created a new breed of zoom lens that will appeal to hobbyists and amateurs who'd like to carry one lens to cover all bases. The way it covers such a broad focal range makes it more versatile than other superzooms, and by equipping it with vibration compensation and weather-resistant seals it allows users to shoot sharp handheld images with slow shutter speeds in low light, or adverse weather conditions.

Compromises do always have to be made choosing an all-in-one lens. Results at full telephoto are usable, but not spectacular.

Distortion and CA are rather offensive too, but shooting and editing in the raw format can remedy these issues. For those after an all-in-one lens suitable for travel, safaris and a multitude of different uses it's certainly worth a much closer look.



Data file

Price £649
Filter diameter
72mm
Lens elements 16
Groups 11
Maximum aperture
f/3.5-6.3
Minimum aperture
f/22-40
Minimum focus
distance

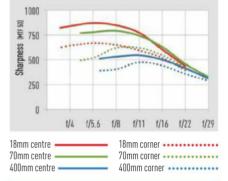
0.45m **Dimensions** 83.5x118mm **Weight** 705g **Lens mount** Canon, Nikon

Amateur Photographer Testbench Recommended * * * *

Tamron 18-400mm f/3.5-6.3 Di II VC HLD

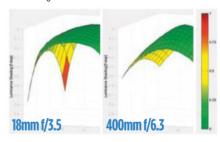
Resolution

Our tests tell us the lens is at its sharpest when it's used at the wide end of the zoom and gets progressively less sharp as you zoom in. For the sharpest results at 18mm you'll want to use the lens around f/5.6, whereas at 70mm you'll want to close down to f/8 to see an improvement in corner sharpness. The level of sharpness drops off quite noticeably when you push towards 400mm, with diffraction softening images from f/16 onwards.



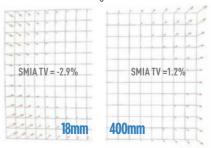
Shading

Use the lens at any point in its zoom range at its maximum aperture setting and you'll notice the corners appear darker than the centre. Vignetting is noticeable at 18mm, but improves by f/8. Stop the lens down from f/6.3 to f/11 at 400mm and you'll see the light fall off towards the corners subside.



Curvilinear distortion

At 18mm, the lens displays strong signs of barrel distortion. The amount of barrel distortion subsides as you begin to extend the zoom; however it quickly turns to pincushion distortion. Users will find they can correct distortion by applying a lens profile, but at the time of testing one wasn't available.



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Tough compacts

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You can drop them, submerge them... you can even take pictures with them. **Michael Topham** compares four compacts that are perfect for summer holidays

f you think your smartphone is good enough to capture the best bits of your summer holiday, think again. Not all of them feature a tough, rugged or waterproof design, and dropping them in the sand, or worse, the pool, could leave you with a costly repair or replacement bill when you get home.

Over the years, we've seen camera

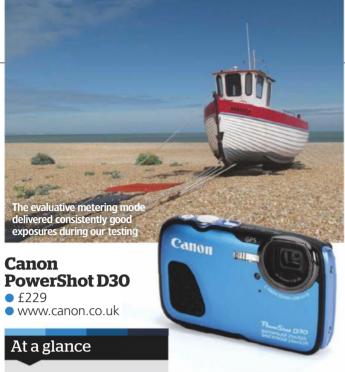
manufacturers introduce tough models into their
compact ranges and they remain hugely popular
with those who'd like to take photographs off limits
and capture images in situations that would
otherwise wreck a smartphone or standard digital
camera. Their robust designs and weather seals

allow you to take them into a pool without a second thought, and better still, they're made to be virtually indestructible so you can hand them over to kids without worrying about any damage.

In this round-up, we've pulled together four of the toughest compacts you can buy right now from the likes of Canon, Nikon, Fujifilm and Olympus. Before you go out and splash your hard-earned cash on one, thinking it'll be adequate for your needs, find out how each got on when they were submerged underwater, frozen in ice and dropped on to a solid concrete floor. The results from our brutal real-world tests might just surprise you.



Buttons and dials are sealed to prevent water getting inside the camera



- Large buttons and easy to use
- Strong underwater performance
- Powers up quickly after being frozen
- Doesn't offer raw format recording

THE Canon D30 is three years old and is starting to show its age. It lets you shoot below the water to a depth of 25m, can withstand a drop from a height of 2m and is freezeproof to -10 °C. Regrettably, though, it doesn't let you shoot in raw format like the Olympus TG-5.

Behind the 5x optical zoom (28-140mm) lies a 12.1MP CMOS sensor that pairs up with a DIGIC 4 processor to deliver an ISO range of 100-3200. Its 1.9fps burst is extremely slow by today's standards and makes it challenging to get that perfect shot underwater at the right time. It is equipped with GPS and an IS system to prevent blur caused by camera shake, but lacks Wi-Fi and USB charging, and is susceptible to light scratching on the screen.

The D30 doesn't offer a great deal in the form of a handgrip, either. You do get a rubber grip at the front and rear to prevent it sliding out of your hands when they're wet, but there are other tough cameras in this round-up that are more comfortable to hold. The concise menu is quick to navigate and the centre Func.Set button can be used to access frequently used settings in all the shooting modes.

Unlike its rivals that come in a variety of colours and finishes, it's only available in metallic blue.

At ISO 100, the D30 resolves 2,400 lines per picture height (I/ ph), with fine detail being affected by noise beyond ISO 800. Users should avoid using ISO 1600 and

3200 for the best results. The evaluative metering mode delivers consistently good exposures and images are rich in colour without being too saturated.

The camera exposed well underwater and the auto white balance produced the most neutral colour of the four cameras. After freezing it overnight and breaking it out of a block of ice, it took 40 seconds to power up. A minute later, the shutter button had defrosted fully to allow shots to be taken. Our final test involved dropping it from arm's length onto a solid concrete floor. The plastic surround around the lens took the brunt of the fall and did crack slightly, although this didn't upset operation.

While there are things to like about the D30 - its large buttons, intuitive menu, active display and close focusing being a few examples - it lags behind the competition in the key areas. In

short, it's not terrible, but your money could be put towards a better example.



Data file

Canon PowerShot D30

Sensor	12.1MP
Sensor size	1/2.3in
Lens	5x optical (28-140mm) f/3.9-4.8
IS0	100-3200
Display	3in, 461k-dot
Video	Full HD (1920x1080)
Dimensions	109.4x68x27.5mm
Weight	218g
Price	£229



At a glance

- Suitable for single-handed operation
- Well laid out buttons across the body
- Supports USB charging
- Offers little rubberised grip

DESPITE feeling more plasticky than the other three cameras, the XP120 is waterproof to a depth of 20m, can withstand a drop from 1.75m and can operate in temperatures as low as -10°C. Behind its 5x optical zoom (28-140mm) is a 16.4MP back-illuminated CMOS sensor. This permits shooting across an ISO 100-6400 range. Like its rivals it provides ±2EV exposure compensation and there's Wi-Fi to link it to any mobile devices using Fujifilm's Camera Remote app.

In addition to its rugged credentials, it has optical image stabilisation, shoots continuously at 10fps for a maximum of 10 frames at full resolution, and supports face detection as well as full HD (1920x1080) video. At the rear, you get a 3in, 920k-dot display, but annoyingly it doesn't rotate images in playback mode when the camera is tilted, in the way that the D30 and TG-5 do. The double-lock mechanism at the side prevents the battery compartment from being accidentally opened and below the SD card slot there's an interface that supports USB charging.

The camera offers little in terms of a rubberised grip, so it does get rather slippery to hold when your hands get wet. The zoom buttons protrude, making them easy to operate with your thumb and the camera can be operated single-handedly without difficulty. The menu looks somewhat dated compared to Fujifilm's mirrorless

cameras, but thankfully it's easy enough to navigate.

The sensor doesn't resolve the same level of detail as its rivals. You'll want to use it below ISO 400 whenever possible and our outdoor testing revealed that it has a tendency to underexpose a little in high-contrast conditions.

Images taken in its underwater mode have a cool feel and its autofocus didn't lock on to our colour chart as fast as the TG-5. After being smashed out of the ice, it powered up after 2 minutes 40 seconds. The shutter button was frozen solid but after 3 minutes 11 seconds it became fully operational again. It passed the drop test with only a small mark on the corner of the body where it took the brunt of the impact.

Those who are working to a £200 budget may be tempted by what it offers for the price – just don't expect the same results or

the level of build quality you'll get from spending more on one of the alternatives.



Data file

Fujifilm FinePix XP120

	711 IIIV
Sensor	16.4MP
Sensor size	1/2.3in
Lens	5x optical (28-140mm) f/3.9-4.9
ISO	100-6400
Display	3in, 920k-dot
Video	Full HD (1920x1080)
Dimensions	109.6x71x27.8mm
Weight	203g
Price	£199



At a glance

- Wide zoom range
- Altimeter and depth gauge for diving
- Supports USB charging
- Unable to match TG-5 focus speeds

THE Nikon AW130 is a couple of years old, and although it has been superseded by the new Coolpix W300, we're no closer to seeing one in the flesh. Available in black, red, yellow and blue, as well as a more unusual camouflage finish, the AW130 features a 16MP CMOS sensor and 5x optical zoom covering a 24-120mm range.

Cold-resistant to -10 °C, shockproof from 2m and usable at depths down to 30m underwater. it boasts an altimeter and depth gauge, and can shoot continuously at up to 7fps. The 3in, 921k-dot screen has the highest resolution of the four on test and displays a very crisp image. Lens shift VR and Electronic VR team up together to effectively compensate for camera shake, and the sensitivity can be manually set anywhere between ISO 125-6400. The battery door at the side locks securely like the XP120's and behind it you'll find a USB port that facilitates charging on the go so you don't run out.

There's no shortage of buttons at the rear and the zoom is operated by your thumb as opposed to your index finger. The only issue is that the buttons are on the small side, so those with larger fingers are likely to find it fiddly to use. The overall build and finish meets the high standard we have come to expect from Nikon.

Detail resolved from the 1/2.3in sensor is good, with 2,400 l/ph being resolved at its lowest ISO setting. Detail drops off beyond

ISO 400, and ISO 800 is the upper limit we'd be prepared to push to on a regular basis.

Testing the camera below the water revealed it's sluggish when acquiring focus and its auto white balance isn't as impressive as the D30 or TG-5. There's no quick menu to access commonly used settings either, so you're reliant on using the main menu, which does slow you down. The camera fired into life out of the ice within 15 seconds, but we had to wait 4 minutes for the shutter button to defrost fully. A heavy drop on to a concrete floor left the camera undamaged and it powered up instantly afterwards.

The AW130 comes equipped with some tempting features and delivers a high level of detail in its images at low ISO, and boasts an excellent screen. It's hamstrung. however, by its lack of manual aperture control, slow focusing and inability to shoot a burst at 7fps in its underwater mode. The

fact it's rather old means you may experience some difficulty sourcing a new one.



Data file

Nikon Coolpix AW130

	ATTIOU
Sensor	16MP
Sensor size	1/2.3in
.ens	5x optical (24-120mm) f/2.8-4.9
S0	125-6400
Display	3in, 921k-dot
/ideo	Full HD (1920x1080)
Dimensions	110.4x66x26.8mm
Veight	221g
Price	f740



At a glance

- Offers raw format recording
- Impressive image quality
- Improves on the excellent Tough TG-4
- Provides thumb-operated mode dial

THE TG-5 differs from the others in this round-up in that it shoots in the raw format. The 12MP BSI CMOS sensor teams up with a TruePic VIII processor to provide a sensitivity range of ISO 100-12,800, while the 4x optical zoom is equivalent to 25-100mm. The lens uses anti-foq dual-pane glass to stop it misting up and by positioning the lens centrally it can accommodate an extensive range of converters and accessories.

It's built to survive a drop from 2.1m, is crushproof to a weight of 100kg, freezeproof to -10°C and waterproof to a depth of 15m. To take it deeper (up to 45m), users will need the PT-058 underwater housing (£279). To help capture fleeting moments as they happen, the TG-5 inherits the Pro Capture feature from Olympus's OM-D series. It also provides the option of shooting a burst of up to 20fps. As well as offering Wi-Fi and GPS, it features a compass, manometer and temperature sensor.

You get a zoom lever that encircles the shutter button and a scroll wheel on the corner to take control of exposure compensation. Having a mode dial is a good idea in principle, but be warned that it can get stiff if sand gets trapped behind it. Button placement is excellent and the central OK button loads a quick menu so you can adjust settings on the fly. The screen doesn't trump the one you get on the AW130. However, it clearly displays shooting settings around its perimeter. Elsewhere it

supports USB charging and is also available in a striking red colour.

We captured sharp and vibrant images, with 2,400 l/ph recorded by the TG-5's sensor at ISO 100. The exposure system delivers good exposures in high-contrast scenes and detail is well preserved up to ISO 1600.

A real boon of the TG-5 is its fast autofocus response, which is noticeably faster than its rivals. The auto white balance does a commendable iob of ensuring colour is vibrant when shooting underwater scenes. It burst into life 1 minute 55 seconds after being broken out of ice, and we were able to pre-focus and take an image 15 seconds later. We dropped it from arm's length and it switched on and worked perfectly, with no sign of any damage.

Olympus's TG Tough compacts have only got better with age. The TG-5 is a great all-round model

and puts in a sensational image-quality and usability performance. It's the real standout here.



Data file

	Olympus Tough TG-5
Sensor	12MP
Sensor size	1/2.3in
Lens	4x optical (25-100mm) f/2-4.9
ISO	100-12,800
Display	3in, 460k-dot
Video	4K and Full HD (1920x1080)
Dimensions	113x66x31.9mm
Weight	250g
Price	£399

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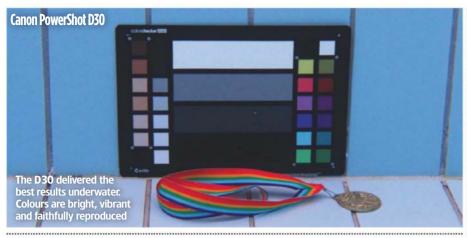
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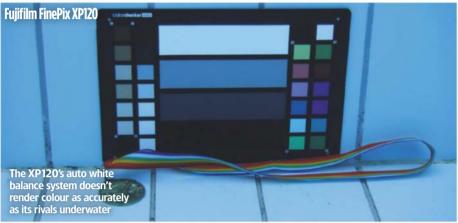
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Our verdict

PITTING four tough compacts against each other has revealed that not only do some offer more advanced features than others, but also there are cases where one will perform well in one area but not so well in another.

A good example is the Canon D30. Although it's easy enough to use and produces decent results underwater, it's starting to show its age when you test it alongside its rivals. It doesn't allow you to shoot in the raw format (although the same can be said for the Nikon AW120 and Fujifilm XP130) and it's missing a few key features we expect to see on a tough compact today, such as Wi-Fi, USB charging and the ability to rattle out a fast burst to increase your chances of getting a great shot underwater.

The Fujifilm XP120 is guite a new contender in this area of the market and doesn't skimp on features. It fits the hand well and is available for under £200, but feels quite plasticky. We found it less robust than the others and it is fundamentally let down by its image quality and sluggish focusing. Those tempted by it would be better off saving their money and putting it towards the Olympus TG-5.

As for the Nikon AW130, it didn't fare best in our underwater or freeze tests. It has the best screen of the quartet, but lacks any form of manual control of aperture, has small fiddly buttons that aren't particularly well spaced and doesn't allow you to shoot a continuous burst in its underwater mode. Hopefully it won't be too long before we get to try out Nikon's replacement in the form of the Coolpix W300.

And the winner is...

The standout model here is the Olympus Tough TG-5. The TG-5 performs well in all the areas that a great tough compact should – it handles well, produces strong results straight out of the camera when used above and below the water, and isn't sluggish or slow when asked to focus. It has a fast lens with manual aperture control, and its ability to shoot in raw gives you a big advantage at the editing stage. Factor in other advanced features such as 4K video, Pro Capture mode and the fact it has an extensive range of converters and accessories, and it's a clear winner in its field. If it's the best tough compact you're after, you won't regret paying more for the absolutely excellent Tough TG-5.



Sony A7r, 35mm ZA lens. 0.8 sec @ f/14, iso 100

Stokksnes

Iceland's intense terrain of volcanic rock, savage mountains, glaciers and malevolently active volcanoes are an exciting challenge to the adventurous, and an irresistible attraction for contemporary landscape photographers.

This terrain is a visual challenge too. The darkness of the volcanic geology, combined with brilliant white snow and ice in marginal lighting can make contrast management quite a headache.

In many circumstances, neutral density graduates can ride to the rescue; this photograph from Stokksnes illustrates an unorthodox application, with the 0.6 ND graduated filter (two stops) positioned lower than you might think. The sun was fading behind western cloud banks, yet the snow on the side of Vestrahorn remained bright, brighter than all but the breaks in the cloud behind the mountain. Full filter density covers the jagged profile of the mountain; the graduation zone begins at the foot of the snow and extends over the dunes in the distance. The filter is clear in front of the foreground dune grasses.

Put simply, the filter is half way down.

Joe Cornish

www.joecornishgallery.co.uk

Even with a hard graduate, careful positioning of the filter (especially with high quality truly neutral filters) can produce a seamless, 'invisible' effect. It helps represent the scene in a way that emulates the way the brain maps it, with good tone and detail throughout.



leefilters.com



LEE 0.6 ND hard grad filter



Hard grad filter

Syrp Super Dark Variable ND

At a glance

- Available in large (82mm) and small (67mm) sizes
- Supplied with two step-up rings
- 5 to 10-stop exposureadjustment control

Michael Topham tests an ND filter with adjustable exposure control

• www.johnsons-photopia.net • £139 (67mm kit) £189 (82mm kit)

THERE'S no shortage of long-exposure neutraldensity (ND) filters on the market, but for those who'd like to cut down on time spent changing filters in varying light, and who want to take control of how much light passes through the lens directly from their filter, a variable ND filter is worth considering. As with other variable ND filters, this Syrp Super Dark Variable ND sandwiches two polarisers together and prevents between 5 and 10 stops of light (ND32-ND1024) penetrating the lens to the imaging sensor. The benefit of using this type of filter is that it enables you to shoot with slow shutter speeds in conditions that would normally be too bright for long-exposure photography.

The filter itself comes as part of a kit and is available in two sizes - large or small. The large filter kit supplied to us for review includes a pair of step-up rings (77mm and 72mm) to fit the filter's 82mm thread, whereas the small filter kit has a 67mm thread and provides 58mm and 52mm step-up rings. As part of the boxed contents, you also get a lens cloth and a beautiful tan leather case to house the filter and ensure it stays protected from dust and scratches when not in use. The design and finish of the filter are hard to fault. On its perimeter you'll find the stops are clearly marked, and it features hard limits so you can quickly locate the minimum and maximum values from behind the camera. Better still, these hard limits prevent the 'X' pattern that can appear when a variable ND filter is pushed too far at the extreme end. The filter rotates very fluidly and the thin knurled ring closest to the lens helps you screw it on tightly to prevent loosening when you're adjusting the filter's strength.

The filter was tested in combination with the supplied 77mm step-up ring and used to create the silky water effect at a number of waterfall locations on the Isle of Skye. Most importantly, it delivers neutral colour that's free of the heavy colour cast you can get with some ND filters, saving you time correcting such issues during post-processing.

As variable ND filters go, this example from Syrp is by far one of the best we've tested. It's well designed, provides excellent control and allows you to work guickly and decisively out in the field. It does all the things you want from a high-quality variable ND filter, and though not cheap, it certainly feels as if you're getting a product that's far superior to some cheaper examples.

Construction

The filter is made from high-quality Japanese glass with a metal surround that ensures it is robust and durable.



Boxed contents

Supplied in a circular cardboard box, there's also a leather case and lens cloth to keep the filter in pristine condition.

Step-up rings

The large filter includes 77mm and 72mm step-up rings, while the small includes 58mm and 52mm step-up rings.

BENEFITS OF A VARIABLE ND FILTER

One of the benefits of using a variable ND filter is that when it's set to its minimum strength, you can compose and focus with it attached before it's used at the extreme end. This can help speed up the process of capturing long exposures out in the field when you need to work quickly and don't have time to remove a filter between shots



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Photos on a 4K TV

I am putting my photos on a USB stick for showing on my 49in 4K smart television with USB connection. I have resized the photos for TV to 3480x2160 pixels, after cropping to 16x9 where possible to fit the screen. How do I get the optimum figure for ppi when resizing? At the moment I use 300ppi, but can I alter the ppi to give the best-quality picture with the minimum file size?

The pixels per inch (ppi) setting should be irrelevant if you have resized to the pixel dimensions you state as ppi only refers to printed output. For example, if you have set a printed size of 20in across and the ppi is set to 300, 20x 300 will result in a file 6,000 pixels wide. Aim for the pixel dimensions you need and don't alter the default ppi setting.

Dark shots on an X-Pro2

I bought a new Fujifilm X-Pro2 in March 2016, and although I love the camera it has been giving me a problem recently. After initially

switching it on, and after it has not been used for a couple of hours, the first shot is often completely black. Most shots from then on are OK, but it still takes the occasional black shot through a series. I do not do burst or bracket shots, but take single shots every time.

I spoke to someone at Fujifilm UK, who suggested I reset to the factory default. I did this, but the problem remains. I have updated the firmware to 3.10 in the body and updated my 18–135mm, 35mm f/2 and 23mm f/2 lenses. I have a 16GB PNY SDHC Class 10 30MB/s card in slot two and a Delkin Black 32GB SDHC UHS–1 card in slot one. I save fine JPEG + raw, with the raw files saved onto slot one. Can you tell me how to solve this?

John D Ryan

There are reports of similar experiences. It's worth gently cleaning the lens contacts on the lens and inside the lens mount. However, I believe the problem is a sticking shutter. I don't know if it's possible to notice if the shutter sound is different when a dark frame occurs. It's possible to

When resizing images for the TV, aim for the pixel dimensions you need and don't alter the default ppi setting





Olympus E-600 focusing

Can I use autofocus with my Olympus E-600 Four Thirds camera, plus a standard 50mm lens, a 14-20mm wideangle and a 70-300mm? Is there another DSLR I can use with these Four Thirds lenses with autofocusing, and is there an adapter I can use that would fit if my Olympus E-600 breaks? What would you recommend I use as a back-up camera, as it would be expensive to replace the DSLR and lenses?

James F Gray

The E-600 is an autofocus camera and practically all Four Thirds E-system lenses developed by Olympus for the E-600 will focus automatically. You can also use Four Thirds-system lenses by Panasonic and Sigma. There are other brands, but most of these lenses are manual focus. You can't use Micro Four Thirds lenses with your E-600, although you can use your Four Thirds lenses on Micro Four Thirds cameras using an adapter. Full electronic control, including autofocus and data interfacing, is retained. However, some lenses work better than others on Micro Four Thirds bodies. Although Four Thirds DSLRs are no longer made, there are plenty of used examples available. You could consider adding a Micro Four Thirds body, like an Olympus OM-D or a Panasonic Lumix. The 14-42mm lens is the 'standard' (zoom) lens and the 50mm is a short telephoto (like a full-frame 100mm lens).

watch the shutter mechanism in action with a lens off, but probably not easy to see if the shutter remains closed when it's fired. Try testing the camera in electronic shutter mode, which keeps the mechanical shutter open. If there are no dark frames, it's likely to be a shutter issue. It would also be interesting

to see if the recorded shutter speed in the EXIF data on dark frames is abnormal. Whatever the problem, your camera needs a service. The standard warranty is for 12 months, but it's worth appealing to Fujifilm if your camera hasn't been ill-treated.

Q&A compiled by Ian Burley

Amateur Photographer

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A close-up of the unusual rangefinder prisms



BLAST FROM THE PAST

Zeiss Ikon Contessa

John Wade looks at a top-quality and very usable collectable

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FOR COLLECTORS, the Contessa is an interesting and historic piece of Zeiss workmanship; for users, it's a 35mm camera with a rangefinder for accurate focusing and an in-built meter for measuring exposures.

It also folds, measuring no more than 12x8x5cm when closed. Pressing a tiny stud allows a bed to drop down at 90° to the body as the lens moves forward along it to the shooting position.

Unlike most rangefinders that work on a two-mirror principle. the Contessa copies a style previously used by Zeiss in the Contax. Two rotating wedges of glass are placed so that, at infinity, the thick end of one wedge falls against the thin edge of the other, and light passes straight through without displacement. As

the camera lens is focused, one

glass wedge

rotates against

the other, forming a

prism and deflecting the light in a way similar to that swivelling mirror in a more

traditional rangefinder.

A selenium meter cell is found under a flap on the front of the body. Film speeds are set on a dial on the top-plate, which is rotated against a moving needle driven by the meter cell to indicate shutter speeds against apertures. The

readings are then transferred manually to shutter and aperture dials around the lens. Although the shutter runs 1-1/500 second, the meter measures light up to a full 16 seconds. Apertures run f/2.8-f/22.

This is a great little camera for collectors and users alike.

What's good Zeiss engineering and optics, folds for easy carrying, robust rangefinder.

What's bad Fiddly shutter and aperture controls, film speeds are measured in DIN, unreliable meter.

The in-built meter on the top-plate

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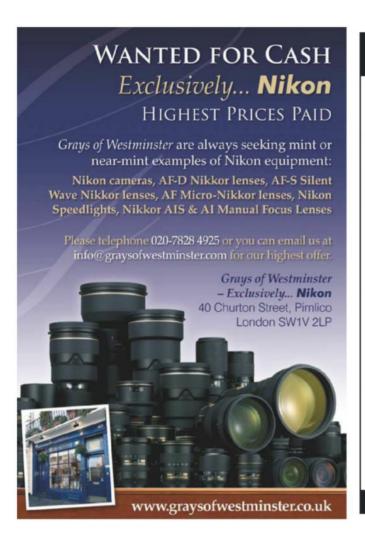
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15-45mm F3.5-6.3 IS STM I	EFM Mint- £15

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E++ / Mint- £1,339 - £1,399
70-200mm f4 L IS USMMint- £1,339 - £1,399
70-200mm f4 L USM IS
70-300mm f4-5.6 EF III E+ £49

70-20011111 14 L USW IS E++ £09
70-300mm f4-5.6 EF III E+ £4
70-300mm f4-5.6 IS USM E+ £19
70-300mm F4-5.6 L IS USM E++ £78
70-300mm F4.5-5.6 DO IS USM E++ £34
90mm f2.8 TSE Shift E++ £78
100-400mm F4.5-5.6 L IS USME+ £64
100mm F2.8 L Macro IS USM Mint- £57
100mm F2.8 USM Macro E++ £29
200-400mm F4 L IS USM with Internal 1.4x Extender
LensE++ / Mint- £9,479 - £9,49
200mm F2.8 L USM II E++ £39
300mm F2.8 L IS USM MKII Mint- £4,49

200mm F2.8 L USM II	E++ £399
300mm F2.8 L IS USM MKII	Mint- £4,499
300mm F4 L IS USM	E+ / E++ £549 - £649
300mm F4 L USM	Exc £389
400mm F2.8 L USM	E+ £2,499
400mm F4 D0 IS II USM	Mint- £5,849
400mm F4 D0 IS USM	E+ £2,379
400mm f5.6 L USM	E++ £729
500mm F4 L IS USM	E+ £3,489
600mm F4 L USM	E+ £2.849

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21mm F2.8 ZE	E+ / E++ £849 - £889
25mm F2 ZE	E++ £949
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85mm F1.4 ZE	E++ £649
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X-E2s Body - Silver	Mint- £399
X-Pro2 Body Only	E++ £949
X-T10 Black Body Only	E+ / E++ £279 - £299
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X-T20 Body Only - Silver	E++ £679
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Olympus Pen-F Black Body Only	E++ £749
OMD E-M5 Black Body Only	E+ £229
OMD E-M5 Silver Body Only	E+ £229
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OMD E-M10 Body Only - Black	E++ £199
E-P2 Black Body Only	E+ £69
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Panasonic GH4 Body OnlyE+ £65
GH-3 Body + GripE+ £39
GH-3 Body Only E++ £37
GX7 Body Only E++ £24
GF-5 Body Only E+ / E++ £69 - £7
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A7S Mkll Body Only	E++ £2,09
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EOS 5D MkII Body Only	
EOS 5D MKIII Body Only	
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EOS 5DSR Body + BG-E11 G	
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EOS 6D Body Only	
EOS 7D MKII Body Only	
EOS M Body Only	
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	E+ £199
D3000 Body Only	E+ / Mint- £99
	E+ £279
	E++ £139
D3300 Body Only	E++ £179
D4 Body Only	Exc / E+ £1,779 - £2,049
D4S Body Only	E++ / Mint- £2,999 - £3,249
D50 Body Only	As Seen £39
	E++ £349
	E+ £89
	E++ £679
	E+ £69 - £79
D700 Body Only	E++ £549
	E++ £299
D7100 Body Only	E++ £479
D750 Body Only	Mint- £1,349
	E+ £129
D80 Body Only	E+ £119
D800 Body Only	E++ £1,649
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	E+ £89

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E30 Body Only	E+	£179
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50mm F4 CF FLE	
50mm F4 Cfi FLE	
20mm F4 CF Macro	
20mm F4 CFE Macro	
50mm F4 C Black	As Seen / E+ £99 - £149
50mm F4 CF	
60mm F4.8 CB	E++ £349
250mm F5.6 C Chrome	Exc / E+ £99 - £29
250mm F5.6 Chrome	As Seen £99
350mm F5.6 CF	
500mm F8 C Black	
.4x PC Mutar shift Converter	
2x Mutar Converter	
2xE Converter	
Extension Tube 16E	
Extension Tube 21	
Extension Tube 32E	
Extension Tube 55	
Extension Tube 56E	E++ £7
PM45 Prism	
PM90 Prism	
PME Meter Prism	
PME3 Meter Prism	
PME51 Meter Prism	
PME90 Meter Prism	
A12 Black Mag	
A12 Chrome Mag	
A24 Black Mag	
24 Black Mag	
Polaplus Mag	E++ £3!

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Horseman 970 + 105mm F3.5 PS As Seen £199		
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M679cc Body E++ £2,689		
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Ebony RSW45 Field Camera E++ £1,149		
Toyo 5x7 Field Camera E+ £289		
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Sinar Wolf 5x4 Monorail E+ £159		
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210mm F5.6 Apo Sironar N E++ £179 - £24
240mm F5.6 Sironar N E+ £39
300mm F9 Apo Ronar E++ £34
Sinar 65mm F4.5 Sinaron W Mint- £49
150mm F5.6 Sinaron S As Seen / E+ £9
120mm F8 Super Angulon E+ £14
210mm F5.6 Symmar S E+ £14
300mm F5.6 Symmar S E+ £19
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120mm F4 PQS Macro	E++ £749
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150mm F4 PQ	E+ / E++ £349 - £399
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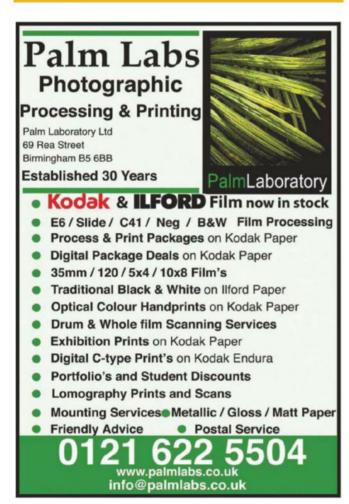
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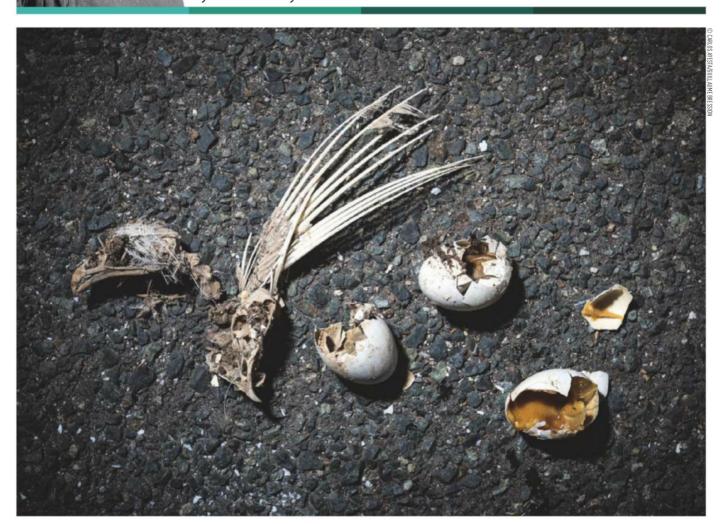
Accessories







Roger Hicks considers... 'A Suspended Time', by Carlos Ayesta and Guillaume Bression



ukushima is a chilling example of the standoff between nature and technology. Ayesta and Bression have shot there frequently, and this image is from their book *Retracing Our Steps – Fukushima Exclusion Zone 2011-2016* (Kehrer).

This picture clearly shows how our response to a photograph is influenced by our knowledge of its background. After all, there are certain subjects that few photographers seem to be able to resist. Doors are one

example. Dead birds are another: Edward Weston's 1942 'Dead Bird, Point Lobos' is perhaps the most famous.

We start to wonder: what killed it? Radiation? A hungry cat? The tsunami, shaking the nest loose? None of it seems to make sense. We start making up stories. It seems unlikely that the photographers were able to move the dead bird. Apart from the sheer unsavoury nature of the task, it would probably be quite difficult. But equally, it would not be impossible. Let us assume for a moment that they

did: that this is a constructed still life for which the French term *nature morte* (literally 'dead nature') is singularly apposite. Does it matter? The broken eggs standing in for the broken body of the bird are a powerful allegory. It is not the real thing, but a reflection of it. The borders between art, allegory, reportage and activism are thinner and hazier than many are willing to admit.

Most things at Fukushima are now happening quite slowly. What is the difference between rearranging things, and waiting for time to rearrange them?

Activism and art are fully compatible, as Banksy well illustrates: think too of the photographic coverage of the Spanish Civil War. But what drives the artist/activist/ rapporteur? This prompts two sobering questions. First, what would propel you to go to these lengths: to find the money to travel to Japan repeatedly? Second, have you the stamina or financial resources to raise the money, let alone the talent to produce pictures as powerful as this? I'd like to think I have, but I wouldn't want to bet my house on it.

Roger Hicks has been writing about photography since 1981 and has published more than three dozen books on the subject, many in partnership with his wife Frances Schultz (visit his new website at www.rogerandfrances.eu). Every week in this column Roger deconstructs a classic or contemporary photograph. Next week he considers an image by Peter van Agtmael.

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